

Gender and Agency within the Household: Experimental Evidence from Pakistan*

Uzma Afzal
Lahore School of Economics

Giovanna d'Adda
Milan Polytechnic

Marcel Fafchamps
Stanford University

Farah Said
Lahore School of Economics

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Abstract

Theoretical and empirical work on intra-household decision making capture empowerment through bargaining weights given to individual preferences, and infer such weights from household consumption allocations. In this paper we test two key hypotheses underlying this work: first, that the sharing rule is the same for all private consumption goods; and second, that household members only care about their final consumption, not about the process by which consumption decisions are made. We use data from a survey and a novel laboratory experiment implemented with adult couples in Pakistan. The experiment is designed to separate the pure value of ‘empowerment’, that is, the right to choose, from the value of having one’s preferred choice selected. We find that women’s involvement in decision making is decreasing in the importance of the decision, thus rejecting the constant sharing rule hypothesis. We also find that women are less willing to pay to have their preferred option implemented in the lab, suggesting that they have internalized their lower agency in the household.

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1 Introduction

The starting point of this paper is a simple parable, that of a parent taking his four-year old son to the ice-cream truck. For the last four weeks the child has asked for a chocolate ice-cream. The parent reaches the truck and orders a chocolate ice-cream for his son. This triggers recrimination from the four-year old who insists on choosing himself, which the parent decides to allow. After some hesitation, the child chooses a chocolate ice-cream.

What lessons do we learn from this parable? First, the decision process is valued by the child, separately from the outcome itself. Secondly, the parent provides full agency to a four-year old on the choice of an ice-cream – but presumably does not offer the same freedom to the child regarding what to watch on TV or whether to eat broccolis. In other words, the agency granted to the child varies from good to good – possibly because it is part of a learning process. While economists with children have already made these observations in their everyday life, this is not how intra-household welfare is presented in published work by economists.

The common view of empowerment among economists is probably best exemplified by the sharing rule approach (Chiappori 1997a, Browning and Chiappori 1998): it is the welfare weight of each individual household member in the consumption decisions of the household. The higher a woman’s welfare weight is, the more her preferences are reflected in household consumption decision, and the larger her sharing rule. The welfare weights themselves are thought as originating from a bargaining game but, as Chiappori emphasized in his debate with McElroy (Chiappori 1988, 1991, McElroy 1990), the appeal of the sharing rule approach is that it does not require specifying what the bargaining game is. The welfare weight of each household member can simply be backed out of the consumption decisions of the household (Browning and Chiappori 1998, Browning et al. 1994, 2010, 2013, 2014). In this framework, spouses are equally empowered if they have equal welfare weights or, equivalently, if the choices they make equally reflect their respective preferences.

Many empirical papers have implicitly or explicitly taken this premise as starting point – either to infer from consumption choices that welfare is unequally divided between spouses (Dercon and Krishnan 2000, Fafchamps et al. 2009), or to identify extraneous factors that affect household choices through their effect on intra-household bargaining power (Fafchamps and Quisumbing 2005, Qian 2006, Duflo 2003). Two maintained hypotheses characterize this large body of empirical work.

First, since efficiency dictates that the sharing rule should be the same for all private consumption goods, inference about intra-household welfare can be drawn from any arbitrary set of consumption goods. Hence the researcher is free to select these goods based on empirical convenience alone. For instance, following Browning et al. (1994), inference about intra-household welfare is often made using clothing as individually assignable good. Another common choice is food consumption as evidenced by nutritional and health status (Dercon and Krishnan 2000, Fafchamps et al. 2009). Cigarettes and alcohol are also commonly used as assignable to male consumption when studying populations in least developed countries.

Second, it is assumed that household members only care about their final consumption, not about the process by which consumption decisions are made. In other words, inference is made about empowerment within the household without needing to study power within the household. This is equivalent to studying democracy by examining government budget allocations, without studying the process by which these allocations are decided.

When the sharing rule itself has been tested and found to be violated, this has typically been seen as implying that intra-household bargaining is inefficient (e.g., Browning et al. 2014). While this reasoning is internally consistent, it does not seek to understand the reasons why

‘efficiency’ is not achieved. Going back to our original example, allowing a four-year old full agency on his choice of ice-cream while refusing him agency in vegetable consumption would be seen as inefficient: higher welfare could be achieved by giving the child equal agency in his consumption of ice-cream and vegetables. The reason why parents do not follow this route is because eating vegetables is for the child’s ‘own good’, just like learning to use self-control when deciding what to consume is a valuable skill when the choice set broadens later in life to include many risky activities. In this example, individual welfare and agency are judged on the basis of social norms and moral or philosophical principles, not just free will.

Social norms and principles are means by which societies often seek to shape the intra-household allocation of agency and welfare, not just for children, but for everyone. For instance, some societies practice *purdah*, which means that women are discouraged from leaving home unless accompanied by an adult male. This practice is often justified as protecting women against attack and abuse. But it can also be seen as a way of impeding their financial and social independence. We thus expect to observe a correlation between intra-household allocation of agency and social norms on agency.

The purpose of this paper is to throw some light on these issues by testing two of the hypotheses behind the sharing rule approach to intra-household welfare. First, is the relative agency of spouses similar across household decisions, or are some decisions assigned to the husband and others to the wife? Second, do individuals value agency for its own sake, i.e., independently of material consumption? In what follows, we call the first hypothesis, that agency varies across decision domains, the ‘subordinate dependent hypothesis’ or SDH, and we call the second the ‘agency value hypothesis’ or AVH.

We test these two hypotheses in a society often suspected of viewing women as subordinate members of society, destined to remain under the control of an adult male, typically their father or husband. The female study population is composed of adult women in the Pakistan Punjab, most of whom are married and have children. This is the ideal population to run our tests. In a society where women’s agency is suppressed and this suppression is justified as a way of protecting women, we expect to find that women are treated in a way similar to adolescents, that is, as having agency over small consumption decisions, but limited agency over major household decisions. Similarly, in a society where women’s locus of control is restricted, we expect women to internalize not having agency. For this reason they may be less likely to sacrifice some material well-being to get their own choice – either because they believe it is not morally acceptable, they fear disapproval and retribution, or they do not view themselves as needing agency.

We test the first hypothesis using a combination of evidence. First, we use answers to a sequence of questions about locus of control. Second, we collect incentivized and unincentivized measures of social norms concerning female agency. Consistent with the SDH hypothesis, we find that women have less agency on big household decisions than on small consumption choices. We do find, however, that women who are household head on average have more agency than women living with their husband, though still significantly less than male heads of household. Norm elicitation reveals that independent decision-making by women is thought of as more inappropriate by men than by women. These results suggest that, in our study population, gender affects decision making power in a way that partially depends on one’s role within the household, and that differences in decision making power are upheld by social norms.

To test the second hypothesis, we run a novel laboratory experiment with married couples from the same study population. The experiment is designed to identify willingness to pay for agency separately from other considerations such as altruism or uncertainty about other household members’ preferences. We find that the proportion of individuals who are willing to forego some material payoff in order to guarantee their own choice is smaller among women

than men.¹ We view the measured difference in demand for agency as a lower bound, given the relatively benign nature of the consumption choice used in the experiment. We also combine the experimental data with survey data on similar issues and find consistent results, in that men are more likely to claim that they would prefer to decide autonomously, even if the outcome is the same.

This paper is related to the existing literature in multiple ways. In addition to the theoretical and empirical literature already mentioned, a number of papers have experimentally examined willingness to pay for agency in gender games between spouses (e.g., Iversen et al. 2011, Jakiela and Ozier 2015). But in these experiments agency has instrumental benefits so they are unable to identify demand from pure agency. A number of authors have documented the negative consequences of mismatched preferences between spouses on efficiency: discount factors (Schaener 2015); fertility preferences (Ashraf et al. 2014); and risk preferences (Carlsson et al. 2009). There have also been many papers showing that income pooling fails, a situation that implies inefficient consumption choices. Duflo and Udry (2004) for instance show that rainfall shocks to spouse-specific crops have different effects on household consumption, suggesting that incomes are allocated to different uses depending upon the identity of the income earner.²

Inefficient household decision making has been documented in a several experiments. Kebede et al. (2014) find that spouses cannot coordinate their contributions to a public good game, suggesting that delegating financial decisions to both spouses need not result in efficiency.³ Mani (2011) similarly reports results from an experiment in which spouses are willing to sacrifice efficiency for greater control over household income. Castilla (2015) finds large efficiency losses in a trust experiment with spouses. In the same vein, several experiments have varied the amount of information available to other household members, such information about others' preferences (e.g., Ambler 2015), windfall income (e.g., Castilla and Walker 2012), or financial decisions (e.g., Hoel 2015). All find evidence of opportunism. de Laat (2014) documents costly actions by spouses to reduce information asymmetry (see also Castilla 2014).

Regarding gender equality, Deer and Twyman (2012) examine procedural equity within households and find that, in Ecuador, women having more command over resources is associated with more egalitarian decision making among couples. Fiala (2015) similarly finds inefficiency in household decisions that significantly affects business outcomes in Uganda. This inefficiency is reduced, for both male- and female-owned enterprises, when women have more control over money. In an experiment over risky decisions by spouses, de Palma et al. (2009) show that the balance of power within the household is malleable. Further evidence to this effect is provided by Ashraf (2009).

Our contribution to this large literature is twofold. First, we clarify the conditions under which the sharing rule is expected to apply: in the absence of social norms and other considerations that lead households to regard women as subordinate dependants with agency limited to a narrow range of household decisions. Second, we offer a novel way of formally testing the agency value hypothesis. Our experimental approach is explicitly designed to distinguish different motives behind willingness to pay for agency. One such motive is others' imperfect knowledge of one's own preferences. We deal with this motive by varying the amount of information given to

¹We also find evidence that, within the context of our experiment, people's choices often deviate from their own stated preferences. Furthermore, when called upon to make a consumption choice for their spouse, many participants choose something different from their spouse's stated preference. Whether this represents playfulness or spite is not entirely clear, although our interpretation leans more towards the former than the latter.

²Other income pooling tests are provided by Munro et al. (2008), Bobonis (2009), Robinson (2012), and de Brauw et al. (2014), among others.

³See also Chen (2013) for similar results from an observational study, and Munro et al. (2008) for additional experimental evidence.

participants about their partner’s preferences. Another motive is the partner’s altruism, which lowers the need to pay for agency when the partner is informed of one’s own preferences. We control for this by measuring altruism separately.

The paper is organized as follows. Our conceptual framework is presented in Section 2. The experimental design is detailed in Section 3. Empirical results are presented in Sections 4 and 5 for the SDH and AVH hypotheses, respectively. Section 6 concludes.

2 Conceptual framework

In this Section, we briefly present the conceptual framework underlying our empirical analysis. The starting point is the standard utility theory as applied to intra-household allocation by Chiappori (1997a). We then turn to willingness to pay for agency.

2.1 Locus of control

Consider a married couple. Let male m and female f utility of a household consumption bundle $x = x_m + x_f$ be denoted by $U_m(x_m)$ and $U_f(x_f)$, respectively. Let p be the price vector and let I_m and I_f denote male and female income, respectively. Chiappori’s basic approach begins by noting that any Pareto efficient outcome can be represented as the solution to a social welfare problem of the form:

$$\max_x \theta U_m(x_m) + (1 - \theta)U_f(x_f) \text{ subject to } p(x_m + x_f) = E \equiv I_m + I_f \quad (1)$$

for a suitably chosen welfare weight θ which, ultimately, depends on intra-household bargaining power. The solution to the above problem is of the form:

$$x_i = x(p, E; \theta)$$

Chiappori’s key observation is that the welfare weight θ is the same for all consumption goods. Simple application of the second welfare theorem implies that (1) can be rewritten as the combination of two individual optimization problems:

$$\max_{x_m} U_m(x_m) \text{ subject to } px_m = \mu E \quad (2)$$

$$\max_{x_f} U_f(x_f) \text{ subject to } px_f = (1 - \mu)E \quad (3)$$

where μ denotes the share of total expenditures allocated to male consumption – but can also be thought of as the degree of involvement of the husband in decision making. The key insight that comes out of system (2) and (3) is that both spouses should be involved in all household consumption choices in the same ratio $\mu/(1 - \mu)$. For instance, if the wife consumes 50% of her budget on food and the husband 20%, while the wife consumes 10% of her budget on alcohol and the husband 50%, total spending on food is $0.2\mu + 0.5(1 - \mu)$ while total spending on alcohol is $0.5\mu + 0.1(1 - \mu)$. Put differently, husband and wife have the same relative weights in all household consumption decisions.

The situation is different if decision-specific constraints are put on agency – e.g., social norms stipulating that a woman has full agency on grocery shopping but has no say on the choice of big ticket items such as a car or house. In this case, the locus of control is partitioned into two sets: groceries, and big ticket items. For groceries, $\mu = 0$ – the wife decides how to allocate the household grocery budget entirely on her own. For big items, $\mu = 1$ – the husband decides

which items to buy on his own. Chiappori’s model makes it clear that this organization of decision making is not efficient: there is room for side-deals between husband and wife so that the husband gets some of the groceries he likes and the wife gets some say on big ticket items. Given this, couples may internally deviate from social norms partitioning the locus of control.

To investigate this issue, we need to gather information on $\mu/(1 - \mu)$ for different categories of household decisions. Doing so quantitatively is not impossible, but would require extensive collection of detailed and high quality data. In this paper, we opt for a simpler approach, which consists in asking respondents to gauge their involvement in different household decisions. To complement this approach, we also elicit social norms on gender-specific agency regarding trivial and important household decisions.

2.2 Willingness to pay for agency

If control over household decisions is unequally allocated, people whose preferences are disregarded may have a strong desire to control what they consume. Put differently, people may have pent-up demand for empowerment or agency. This was the case for the four-year-old child in our initial example. It is also possible that people have a demand for agency but refrain from manifesting it for fear of retaliation. In this case, we expect them to only be willing to pay for agency if they can do so while maintaining their anonymity – for instance, within the confines of a laboratory experiment. Alternatively, individuals with low agency may have internalized their predicament and thus express no desire for agency.⁴

We wish to formally test whether individuals who, by their gender, are given a subordinate position in household decisions manifest more or less demand for agency in an anonymous setting than individuals who are not in a subordinate position. If they show more demand for agency, this is consistent with the idea that they aspire to more independence. If they show less demand for agency in a setting where the risk of retaliation or disapproval is experimentally kept to the minimum, this is consistent with subordinate individuals having internalized their lack of agency.

To formally test between these alternatives, we develop an experimental design based on the simple model presented below. We start with a standard model in which people derive utility purely from their own material consumption. We then introduce the possibility that individuals may want to pay to get their own choice irrespective of what they expect to receive.

There are multiple reasons why individuals may be willing to pay to ensure that what they consume is what they select themselves. To illustrate, consider a situation with three possible consumption bundles $\{x_1, x_2, x_3\}$. Individual i is given one of these bundles and has to consume it at a specific moment in time, with no exchange or resale possible. The utility that i derives from a bundle k is $U_i(x_k)$.

By design i has to choose between two options, which we denote A and B . Option B is always the same, but option A varies across treatments. In option B , i consumes quantity $\alpha < 1$ of the bundle of her choice instead. Let the value of this choice be denoted \bar{U}_i . We have:

$$\bar{U}_i \equiv \max\{U_i(\alpha x_1), U_i(\alpha x_2), U_i(\alpha x_3)\}$$

Let A_0 denote the control treatment. If individual i chooses option A_0 , she is assigned one of the three bundles at random. The expected value of this assignment is:

$$\tilde{U}_i = \frac{1}{3}U_i(x_1) + \frac{1}{3}U_i(x_2) + \frac{1}{3}U_i(x_3)$$

⁴They are then regarded as alienated: they have a need for agency, but they are not aware of it. External intervention may then be needed to raise their awareness so as to ‘free them of the shackles inside their head’.

Whether \tilde{U}_i is larger or smaller than \bar{U}_i depends on many factors, such as the curvature of U_i with respect to x_k , the size of α , and the difference in utility between the three consumption bundles. Let p_0 be the proportion of the population for whom $\bar{U}_i > \tilde{U}_i$. These are the people who prefer option B , that is, to receive a smaller quantity of their top choice, instead of receiving option A_0 , that is, receiving a randomly selected bundle.

Now consider another option. Suppose that instead of receiving one of the three bundles at random, an individual j is asked to select a bundle for i . If j has no information about i 's preferences, j will select a bundle at random, and i will receive utility \tilde{U}_i . Hence this option is the same as option A_0 , and p_0 is the proportion of individuals who select option B instead. Now suppose that j is explicitly informed of i 's preferences – and the cost of making a selection is minimal. Call this option A_1 . As long as j has some positive altruism towards i , j will select i 's top choice. Let us assume for a moment that j is moderately altruistic – and i knows that. In this case, i receives:

$$\bar{\bar{U}}_i \equiv \max\{U_i(x_1), U_i(x_2), U_i(x_3)\}$$

which is clearly greater than \bar{U}_i since $\alpha < 1$ by construction. It follows that when j is informed of i 's preferences – and i knows that – then i should prefer $\bar{\bar{U}}_i$ to \bar{U}_i and thus should never opt to consume a smaller quantity of the bundle of her choice. It is nonetheless possible that a complete stranger j would not be altruistic towards i , in which case we expect $p_1 > 0$. As long as i does not expect a stranger to deliberately try to hurt her, option A_1 is superior to A_0 and therefore we expect $p_1 < p_0$.

It is natural to assume that, on average, a spouse or household member would be more altruistic toward i than a complete stranger. Let i know that j is a spouse or a household member and that j has been informed of her preferences. We denote this treatment A_2 . Hence, because altruism is virtually guaranteed, the proportion of individuals who opt for option B should be $p_2 = 0 < p_1 < p_0$.

It is also possible that a spouse or household member would already know of i 's preferences, even without being told. Let A_3 denote the treatment where i is told that a spouse or household member is selecting the bundle but has not been informed of her stated preferences. Here i 's expected utility can be at most as high as under option A_2 , and at most as low as option A_0 when the choice is made by a stranger. It follows that $p_0 \geq p_3 \geq p_2 = 0$. Of course, j may not be altruistic towards i . In this case, option B may be preferable. We can determine whether j is altruistic towards i by playing a dictator game. If j is revealed to be altruistic towards i , the predictions outlined so far should hold. If j is revealed to harbor low or no altruism towards i , then the probability of choosing option B should rise. While i may not know whether an unknown stranger j is altruistic towards her, she presumably would know whether her spouse or another specific household member is altruistic towards her.

We thus have the following prediction: if j knows i 's preferences and j is a spouse or household member revealed to be altruistic towards i , then i should never select option B . For i to select option B in this case, it would have to be that the process of choosing her own bundle generates utility for i over and above $\bar{\bar{U}}_i$. This is what we call willingness to pay for agency. To go back to the ice-cream example in the introduction, it is pure utility from agency that explains why the four-year old insists on choosing the ice-cream himself even though his altruistic and informed parent would select the flavor he prefers. Comparing the proportion of the population selecting option B under this scenario to those selecting it when preferences are not known and when partners are strangers, we will be able to separately assess the role of imperfect information and social distance on individual decisions.

The above model makes a few additional testable predictions as well. First, if i is asked

to rank the three bundles from most to least preferred, given the choice she should select the highest ranked bundle for herself. Second, if j is revealed to be altruistic and is provided with information about i preferences, j should select the bundle which is highest ranked by i . Deviation from these predictions are not explainable from within the model presented above. If they are violated, the experimental testing strategy described above may fail to truly identify willingness to pay for agency.

In Section 3.2, we discuss how the experimental design incorporates the different scenarios discussed here.

3 The data

This section first describes the sources of data used to test the SDH and AVH hypotheses, and the sample characteristics. We then discuss the survey questions and incentivized norm questions designed to test the SDH, and the experimental design aimed at testing the AVH.

3.1 Sources of data and sample characteristics

We use complementary sources of data to address the research questions, drawing on partially overlapping samples. To test the SDH, we combine the following data. First, we administered a survey to approximately 800 women participating in a microfinance randomized control trial (RCT) and asked them about locus of control. These women were asked about their involvement in a series of decisions with different levels of importance, and about their (unincentivized) opinion on the appropriateness of autonomous decision making by women. Second, we conducted laboratory games with 98 of these women and their spouses, plus 70 couples randomly drawn from the same neighborhoods as the RCT couples. From these participants we elicited norms on autonomous decision-making by women and we administered a subset of the survey questions on locus of control.

To test the AVH, we primarily use data from the laboratory game sample, which took part in a novel experiment to elicit preferences for agency. We also reproduce key features of this experiment in a set of unincentivized survey questions that we included in the questionnaire administered to the women participating in the microfinance RCT. For the sake of exposition, in what follows we refer to the sample of women participating in the microfinance RCT as the RCT sample, and to the sample of women participating in the laboratory games as the LAB sample. We now describe the two samples in more detail.

The RCT sample was drawn from a pool of National Rural Support Programme (NRSP) female members who currently have, or have taken in the past, microenterprise loan products offered by NRSP. The sample was drawn in August 2014 from client lists at the NRSP district offices in urban and peri-urban areas of Bhakkar and Chakwal in Punjab to participate in a microfinance RCT. The RCT tested the demand for a novel microfinance product inspired by the rotating structure of a ROSCA.⁵

The district of Chakwal, located near the capital Islamabad, has prominently been one of the top districts in Punjab in terms of educational attainment (access, gender parity, enrollment rate and literacy). In terms of economic development, it is ranked 2nd in the country according to (Memon et al. 2014) with an average monthly income of Rs. 7200 (\$72).⁶ The district of

⁵Namely, half of the sample was randomly assigned to a micro-finance treatment.

⁶Inflation adjusted estimate from PSLM 2010-11.

Bhakkar has a comparatively lower average monthly income of Rs. 6592 (\$66).⁷ This district ranks in the top-third of the country in terms of educational attainment.

We conducted a baseline survey with the study participants either at their home or their business, based on their stated preference. All of the women surveyed at baseline were then revisited in March 2015 for the endline survey. All surveys were conducted by an independent enumerator firm. Due to the private and subjective nature of the questions being asked, interviews of female respondents were conducted face-to-face by female enumerators. Care was taken to ensure that the survey was not conducted in the presence of NRSP loan officers, and the respondents were assured their responses would remain confidential and would have no bearing on their current or future relationship with NRSP.

The average female in the RCT sample is 38 years old. 55% of the women in the RCT sample are literate (can read and write) and belong to a household with an average monthly expenditure of little less than Rs. 19000 (\$190). Almost half of the sampled women run a business, either independently or jointly with someone else.⁸ 19% of RCT respondents do not live with a husband – either because the husband is absent (e.g., is a migrant) or because the respondent has no husband at the time of the survey (i.e., is divorced or widowed).

The LAB sample was drawn from the urban and peri-urban areas covered by NRSP branches in the district of Chakwal. These areas are further divided into geographical clusters – or muhallas – used as sampling units, so as to ensure that the flow of information between participants of different sessions was limited. Each experimental session was held in a central location, at less than 20 minutes drive via public transport from any of the sampled muhallas.

Our initial intent was to recruit all our experimental subjects from among the households participating in the microfinance RCT in the Chakwal district. This proved impossible, however, because many invited RCT households refused to participate, arguing that the experiment was too time-consuming. As a result, we broadened the eligible population to include both individuals from the RCT sample and randomly selected individuals from the same muhallas where the RCT households reside. The sampling protocol we followed is thus the following. We randomly selected to be invited to the experiment one subject from the list of female RCT participants within each muhalla. Then we invited to participate to the same session one couple from every 3rd household living on the same street as the RCT invitee. These two steps were repeated until 15 couples committed to participate in the session.⁹

Women were invited to participate to the experiment together with a male household member. In each household we started by inviting the husband of the invited female. In cases where the female invitee was unmarried or not living with her husband (e.g., the husband is a migrant), we invited the adult male household member identified to have the greatest power over household financial decisions. To facilitate participation by employed subjects, in particular men, we held sessions over the weekend.

At the time of invitation, all couples were given basic information on the experiment and details on the time, date, and expected duration of the session (2-3 hours). Each couple was also informed of the compensation and expected earnings from participation: a participation fee of Rs. 1000 (\$10) (i.e., Rs.2000 per couple) provided that they stayed for the entire duration of the session; and potential additional earnings of at most Rs. 1000 (\$10). Informed consent was collected from all participants before the start of each session, and payments were made individually and privately at the end.

⁷Inflation adjusted estimate from PSLM 2010-11.

⁸Descriptive statistics on the RCT and LAB samples are presented in Table 1 below.

⁹We over-recruited subjects to ensure that at minimum the target number of 12 couples would turn up on the day of the session.

As a result of this recruitment procedure, 58% of the experiment sample (98 pairs of participants) is from the original RCT sample, and the remaining 42% (70 pairs of participants) are randomly selected pairs from the same localities. Thus the LAB sample is composed of two sub-samples, the RCT sub-sample and the randomly selected sub-sample. For exposition purposes we refer to the latter sub-sample as the LAB ONLY sub-sample. Male questionnaires were not administered at the time of the RCT survey. All data on males was collected through the questionnaire administered at the time of the experiment.

Variable	RCT Sample		LAB Sample		p-value
	n	mean	n	mean	
Age	790	37.97	196	38.75	0.41
Can read and write	790	0.55	184	0.65	0.41
Average monthly hh expenses (Rs)	763	18863.1	196	14491.57	0.75
Self employed (females)	789	0.49	86	0.37	0
Housewives (females)	789	-	86	0.24	0
Self employed (males)	789	-	86	0.15	0.73
Private employees (males)	789	-	86	0.21	0.72
Day labourers (males)	789	-	86	0.33	0.19

Table 1. Descriptive statistics on the RCT and LAB samples

As shown in Table 1, the RCT and LAB ONLY sub-samples are essentially balanced on basic demographic data obtained at the time of the experiment, i.e., age, literacy, household average monthly income, and male occupation. Female occupation is the only exception. When comparing the two sub-samples, we see that 37% of women from the RCT sub-sample are self-employed, compared to only 13% of the women in the LAB ONLY sub-sample. This is not too surprising given that the RCT sample is made of clients of NRSP and are thus self-selected on their interest in micro-enterprise loans. Correspondingly, a significantly smaller percentage of female participants in the RCT sub-sample are housewives (24%) compared to the LAB ONLY sub-sample (52%). In contrast, the male LAB sample is more balanced on occupation across the two sub-samples. Roughly two-thirds of the male sample are either self-employed, in private wage employment, or work as daily wage labourer. There is no statistically significant difference between the men who accompanied women from the RCT and LAB ONLY sub-samples.¹⁰

We now describe the questions and games used to address the research questions.

3.2 SDH

We test the SDH through a specific array of questions. These questions are aimed at eliciting social as well as household level norms, which are expected to shape intra-household allocation of agency and welfare. The full list of questions aimed at testing the SDH is presented in Appendix B, Panel A. The table also specifies from which samples we collect each measure.

A first set of questions documents decision-making power within the household by asking whether the respondent has to ask for permission when making certain decisions. These decisions range from small consumption choices – e.g., buying ice cream for children – to major financial decisions – e.g., purchasing a large consumption durable. The decisions are ranked from less to more important. The purpose of this ranking is to test the hypothesis that the locus of control

¹⁰A slightly different questionnaire was used in the first experiment session. As a result, we do not have self-reported data on occupation for 12 couples participants in that session.

varies across decision categories. The questions are included in the surveys administered to the RCT sample (women only) and to the LAB sample (women and men).

A second set of questions ask respondents about the extent to which their preferences and opinions are taken into account when the household makes certain decisions. These decisions range from children’s education and social visits, to purchase of household goods and investment decisions. They can be grouped in different categories on the basis of the importance of the decision. These questions are asked in the RCT survey only.

A third set of questions aimed at testing the SDH focuses on social norms about women’s autonomy in decision-making. These questions are included in the lab experiment and RCT survey. The experimental design includes a norm elicitation task, inspired by the one introduced by Krupka and Weber (2013). The task derives appropriateness ratings for various hypothetical behaviors. Subjects are faced with a hypothetical situation and are asked whether a described behavior is consistent or not with shared norms of moral conduct. In order to elicit social rather than personal norms, subjects are incentivized to match the appropriateness rating given by another randomly drawn individual.

Within our experiment, the two hypothetical scenarios that subjects are faced with relate to female decision making. Both scenarios describe a woman making decisions independently without consulting her husband. In the first scenario the decision is about how to spend a small monetary gift. In the second, the decision is on how to invest the returns from the woman’s own business. We modify the standard Krupka and Weber (2013) protocol to introduce variation in the identity of the person whose answer subjects are incentivized to match: participants are asked to match both the rating of a randomly selected person of the opposite gender, and of their husband or the household member who accompanied them to the lab experiment. We thus collect four ratings in total, allowing us to examine whether norms on agency vary within or outside the household, or for different financial decisions. We also include unincentivized versions of these questions in the RCT survey, asking how appropriate it would be for a woman to spend a small monetary gift or to re-invest her own business profits without consulting her husband.

3.3 AVH

To test the agency value hypothesis (AVH), we design an experiment that combines traditional (e.g., dictator game) and novel features (e.g., consumption choice game). Given that many participants are unfamiliar with computers – and some are even illiterate – the experiment is implemented using pen and paper and is heavily scripted. Appendix C provides a detailed timeline of the experiment and reports the game instructions read to participants.

Participants to the experiment are invited in pairs. In what follows, the person with whom a subject comes to the experiment is called their relative, since women were invited to attend the session with the main male decision maker in the household when the husband was not living in the household. By design, all relatives are of the opposite sex. Upon arrival to the experimental lab, female and male subjects are segregated into two different rooms and they are told that they will be playing various games with a partner of the other sex in the other room, always the same person. There is no communication between participants in the two rooms during the entire experiment.

Half of the pairs of participants are selected at random to play with each other. The other half are matched at random with a person of the other sex selected among individuals in the other room who are not matched with their relative. Subjects are told whether they are playing with their relative or with a stranger of the other sex selected from the other room. The identity

of the stranger partner, however, is not revealed to the participant, nor to the enumerators and assistants conducting the session. It is known only to the enumerator entering the data, who is sitting outside the two rooms.

Participants first play a set of standard games with their partner, namely the dictator, ultimatum, and taking games. These games are aimed at capturing subjects' altruism towards the partner, preference for fairness and respect for the partner's property, respectively. In the dictator game, a subject in the role of Player 1 is given an endowment and has to split it between herself and her partner, Player 2. In this game, Player 2's role is passive. In contrast, in the ultimatum game, Player 1 faces the same allocation decision, but Player 2 decides whether to accept or reject the allocation proposed by Player 1. If Player 2 accepts, the money is split according to the proposal. If Player 2 rejects, neither player receives any money. The taking game is a reverse-dictator game: Player 2 is given an endowment, and Player 1 decides how to allocate it between herself and Player 2, who is again completely passive. For each game, each participant plays both roles, i.e., Player 1 and Player 2. The order of the three games for all subjects in a session is randomized at the start of the session. Random draw also determines which of the three games, and role within it, is used to determine the subjects payoff. This is all explained to participants before playing the three games (see Appendix C).

After the first three standard games, the participants play the consumption choice game with their assigned partner. Subjects are explained that they will play a game to determine which juice flavor they will consume during a short break. Each subject is then asked to rank three flavors of juice (apple, orange and pineapple) by order of preference, after having tasted each of them. Juice is distributed to experimental subjects in plastic cups filled from large cartons. This ensures that the good must be consumed on the premises and cannot be stored, resold, or given to others outside of the experiment. The three flavors used in the game omit options, such as mango, that are likely to be common top choices. After recording preferences over juice flavors, participants are asked to guess the flavor ranking of their partner.¹¹ The object of these questions is to elicit the participants' own preferences and to determine whether they know their partner's preferences. Participants are not expected to know the preferences of an unknown stranger any better than that of the population at large. Hence the participants' ability to guess the preferences of an unknown stranger serves as control for familiarity with preferences over juice flavors in general.

In the next part of the consumption choice game, participants select a juice flavor for themselves and for their partner. The sequencing is as follows. First, subjects in half of the pairs are told the preference ranking of their partner.¹² The other participants are not given that information. Next, each participant is instructed to select the juice flavor they want to consume during the break. Finally, they are asked to select which flavor they want their partner to consume during the same break. While these choices are made, participants are informed that their partner in the other room is given the same information and is making the same decisions. This means that half of the participants know the preference ranking of their partner when selecting a juice for them; they also know that their assigned partner is informed of their own preferences.

In the last part of the consumption choice game, participants get to consume a glass of juice. The order of play is the following. First, each participants is told that they have a 50% chance of consuming the juice they have selected for themselves, and a 50% chance of consuming the juice

¹¹Eckel (2016) similarly asks experimental subjects to make choices for others, but in that case the purpose is to study gender stereotypes.

¹²This part of the experiment is the most challenging logistically, given that the experiment is played with pen and paper. Enumerators recorded the preferences of each participant in each of the two rooms. Once records were complete, information was circulated across the two rooms in the manner described in the text.

that their partner has selected for them. Participants are then called one by one to get their glass of juice. An experimenter, sitting in front of the subject in a private location, explains that a coin toss will determine whether they will drink their choice or their partner’s choice of juice. Before tossing the coin, however, the experimenter asks the subject whether they prefer to avoid the coin toss and drink *half* a glass of their choice of juice for sure. The reduction from a full glass to half a glass is the price the participant must pay to ensure they receive their preferred juice.¹³ Subjects can thus choose between half a glass of their selected juice, or a full glass of what they or their partner have selected, depending on the coin toss.¹⁴ Subjects consume the juice before re-entering the room.

Randomization of partner pairs into relatives and strangers, and randomization of information between partners define four treatment cells summarized in Table 2 below. To make the link between the experimental treatments and the model presented in Section 2.2 more explicit, the cells of the table report the corresponding scenario from the model.

		Information treatment	
		Uninformed	Informed
Matching treatment	Relative	Uninformed relative (A_3)	Informed relative (A_2)
	Stranger	Uninformed stranger (A_0)	Informed stranger (A_1)

Table 2. Experimental design

The purpose of this design is to contrast situations in which participants choose what the partner should consume -if she does not pay to avoid the coin toss- knowing what she wants, with a situation in which they have to guess what the partner wants – the informed versus uninformed treatment. If a participant knows that her partner is informed about her preference ranking and expects the partner to select her preferred flavor, the participant is sure to consume her preferred juice. In this case, there is no reason for her to forego half a glass of juice *unless* she is willing to pay for pure agency, that is, unless the AVH holds. The proportion of participants rejecting the coin toss under this treatment can be interpreted as the fraction of subjects who are willing to pay half a glass of juice for pure agency. By the same reasoning, the difference in rejection of the coin toss between the informed and uninformed treatments can be interpreted as the willingness to pay to reduce uncertainty due to ill information.

Even when informed, subjects need not select for their partner the juice that their partner prefers. We can test this directly by comparing choices made by informed and uninformed partners. Furthermore, partners who are altruistic towards a subject are more likely to select a flavor she likes once they have been informed of her preferences. Since we expect relatives to be more altruistic towards each other than strangers, comparing coin toss rejections between the relative and stranger treatments provides information about the value of agency when social distance increases. In addition to these treatments, we also have each participant’s belief about their partner’s preferences, and we have a way of testing altruism directly from individual play in the dictator and taking games. We revisit the details of our testing strategy in the empirical section.

We test the AVH primarily through the experimental design just described, but we also mimic its key features in a set of questions included in the survey administered to the RCT

¹³We elected not to set the price for own choice in money because money is storable, transferable, and fungible with household cash. Setting the price in juice ensures that the full cost of agency is immediately borne by the subject.

¹⁴We considered varying the price paid to avoid the coin toss but this proved logistically too complicated to implement, given that we had elected to set the price in juice units.

sample. Namely, we ask women: whether they believe their spouse knows their preferred pastime; whether they expect that their spouse would choose their preferred option if given the opportunity; and whether they would still prefer to choose a pastime by themselves. The full set of questions aimed at testing the AVH is presented in Panel B, Appendix B.

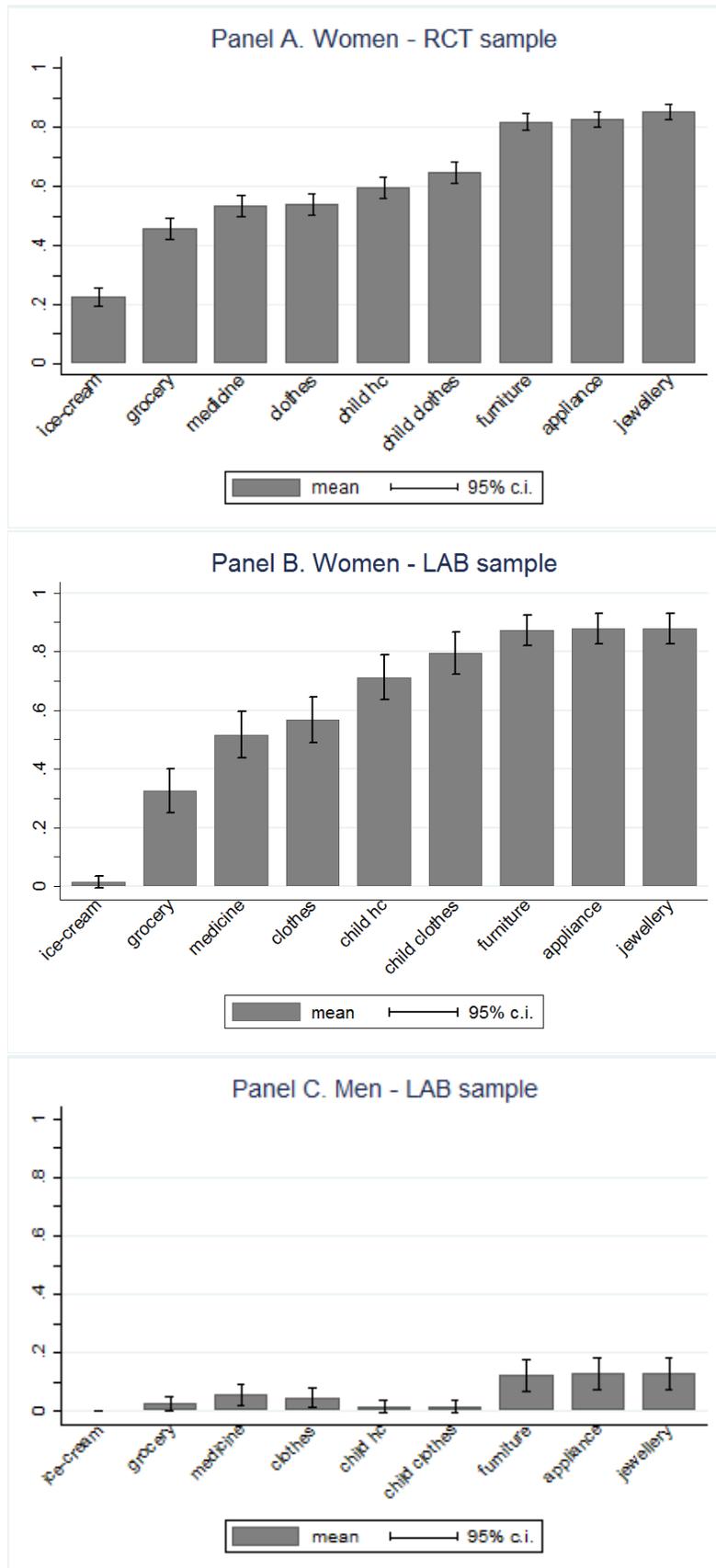
4 Testing locus of control

We present in Figure 1 summary statistics on the need to ask for permission before making decisions. We report average answers for women in the RCT sample (Panel A), women in the LAB sample (Panel B), and men in the LAB sample (Panel C). Each bar in the graph represents the share of respondents answering that they need to ask for permission before making the corresponding decision. The graph also shows 95% confidence intervals for each variable. Decisions are sorted from least to most important, with buying ice-cream at one extreme and selling jewelry on the other. Two main findings emerge from the figures. First, there is a large difference in the need to ask for permission between men and women: while 68.9% of women in the LAB sample answer affirmatively on average, only 6.2% of their male partners do so ($p = .000$).¹⁵ The corresponding figure is 69.4% among women in the RCT sample. Second, the need to ask for permission is increasing in the importance of the decision: affirmative answers increase by 63 percentage points going from the least to the most important decision among women in the RCT sample, and by 86 percentage points among women in the LAB sample – but only by 13 percentage points among men in the LAB sample. These patterns thus support the SDH, especially for women.

Next we confirm these results through regression analysis and we examine the determinants of locus of control. Table 3 shows regression results of the ‘need permission’ variables on the importance of decision. This is done for the RCT sample (Columns 1-2) as well as for the female (Column 3-4) and male (Column 5-6) LAB samples. The individual fixed-effects specification (Columns 1-3-5) confirms the statistically significant increase in the need to ask for permission as decisions become more important. We observe that decision autonomy decreases with: age; being household head; and the education level among men. While female heads of household are 50 percentage points less likely to require permission to make decisions than other women ($p = .000$), they are nonetheless 9 percentage points more likely than male heads of household to need permission ($p = .000$).

¹⁵Here and in the remainder of the analysis, p-values are always from two-sided t-tests.

Figure 1: Need permission, by decision importance



	Needs permission to take decision					
	Women RCT sample		Women LAB sample		Men LAB sample	
	(1)	(2)	(3)	(4)	(5)	(6)
Decision importance	0.071*** (0.002)	0.071*** (0.002)	0.100*** (0.004)	0.100*** (0.004)	0.014*** (0.003)	0.014*** (0.003)
HH head		-0.435*** (0.032)		-0.509*** (0.047)		-0.234*** (0.059)
Age		-0.006*** (0.001)		-0.006*** (0.002)		-0.002* (0.001)
Literate		0.007 (0.023)		-0.001 (0.041)		-0.067*** (0.021)
Individual f.e.	Yes	No	Yes	No	Yes	No
Constant	0.258*** (0.012)	0.553*** (0.048)	0.117*** (0.022)	0.374*** (0.087)	-0.006 (0.017)	0.355*** (0.065)
Number of Obs.	6651	6651	1349	1349	1330	1330
R-Squared	0.143	0.277	0.285	0.427	0.028	0.237

Table 3. Regression of need permission variable on the importance of decision

Semi-parametric regressions, shown in Figure 2, confirm the robustness of our results.¹⁶ We also estimate individual level regressions using an index of locus of control as dependent variable. This index is computed as the sum of answers to the need permission questions. These regressions yield similar outcomes (see Appendix A Table A1). Overall, the evidence is consistent with the SDH: individuals, especially women, have a different degree of agency across decision categories, with less agency on more important decisions.

To further confirm these results, we examine answers to survey questions on the extent to which the respondent’s own preferences and opinions are taken into account in household decisions. These questions were administered to the RCT sample only, and only to female respondents. This set of questions explore the following decision categories: personal consumption or financial decisions, decisions over social visits, decisions over children’s outcomes, such as education and health care, large household investment decisions, and family planning. These decisions can also be ranked by order of importance based on their impact on future household welfare. Figure 3 displays average answers to these questions broken down by decision category (Panel A). We see that women’s opinion and preferences are taken into account to a lesser degree as the importance of the decision increases.

Results from fixed-effects regressions confirm the negative and statistically significant effect of decision importance on the likelihood that women can influence household decisions (Table 4). Consistent with our earlier results on locus of control, the opinion of older and more educated individuals is more likely to be taken into account in household decision-making. These results

¹⁶These regressions are of the form

$$y_i = \beta X_i + g(Z_i) + u_i$$

where y_i denotes the dependent variable for individual i , X_i is a vector of controls (e.g., HH head, age, literate dummy), Z_i is the decision’s importance ranking, and the non-parametric function $g(\cdot)$ is the object of interest reported in Figure 2. An estimate of this function is obtained by a partialling approach, i.e., regressing y_i and X_i non-parametrically on Z_i ; regressing the residuals from the y_i regression on the residuals for the X_i regressions to obtain an estimate of β ; and finally regressing $y_i - \hat{\beta}X_i$ non-parametrically on Z_i to obtain an estimate of function $g(\cdot)$.

Figure 2: Non-parametric estimation of need permission variable on decision importance: women RCT sample (top), women LAB sample (middle), men LAB sample (bottom)

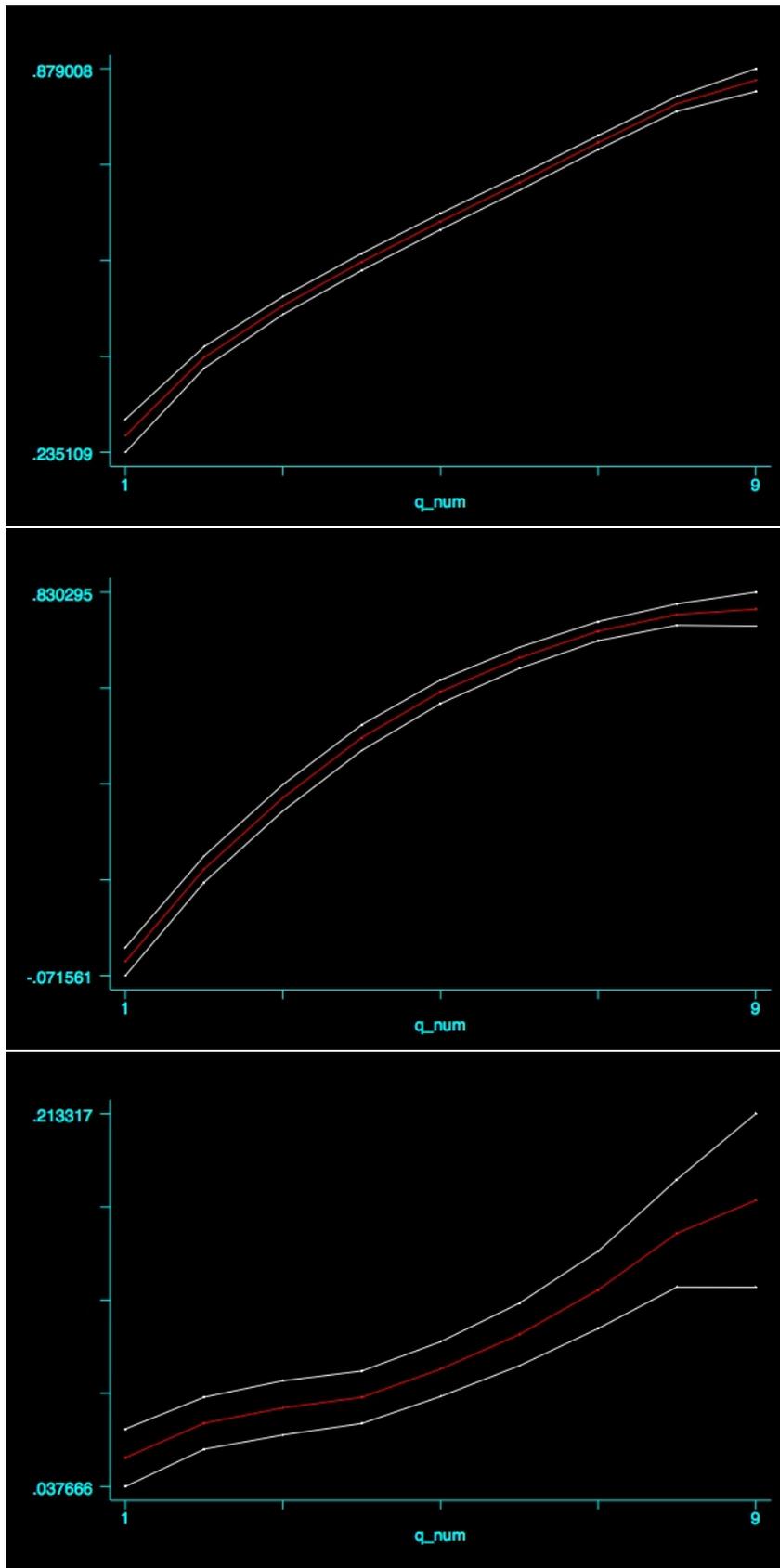
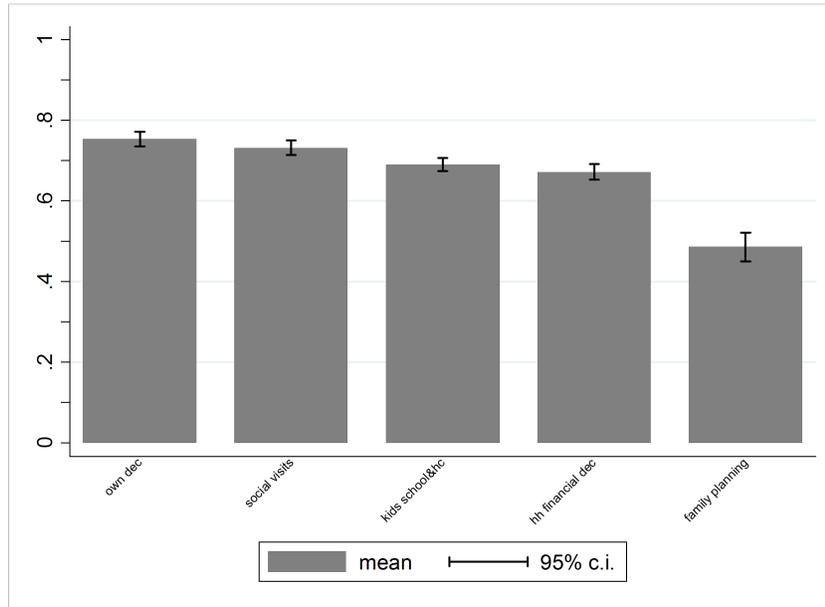
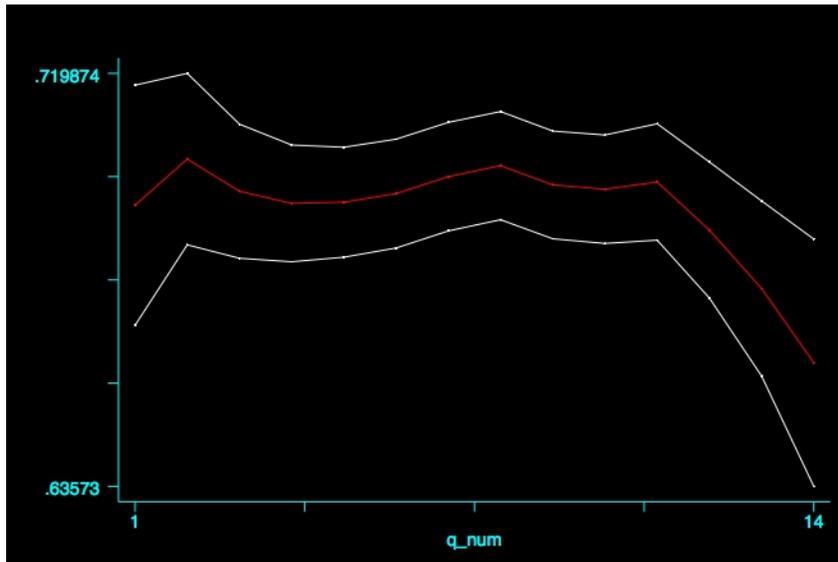


Figure 3: Opinion taken into account: RCT sample only



(a) Share of affirmative answers by decision importance



(b) Non-parametric estimation

are robust to distributional assumptions, as demonstrated by the non-parametric regression results presented in Panel B of Figure 3. In Appendix A, Table 2 we show similar results when using an individual index of influence, constructed as the sum of the 14 questions. Taken together, these results also support the SDH since they show that female dependants have unequal decision weight across decision categories.

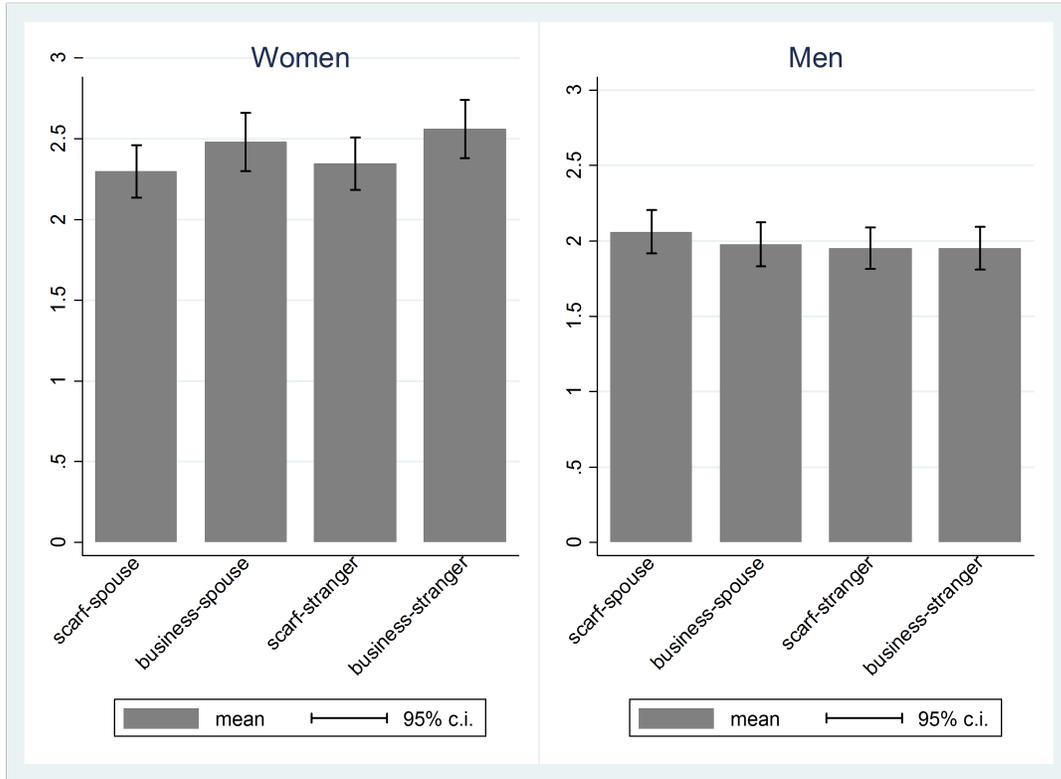
	Opinion taken into account	
	(1)	(2)
Importance of decision	-0.046*** (0.003)	-0.046*** (0.003)
HH head		0.064*** (0.025)
Age		0.004*** (0.001)
Literate		0.022 (0.022)
Individual f.e.	Yes	No
Constant	0.818*** (0.009)	0.632*** (0.042)
Number of Obs.	10682	10682
R-Squared	0.024	

Table 4. Regression of opinion taken into account variable on decision importance (RCT sample only)

The last piece of evidence relative to the SDH comes from the incentivized and unincentivized norms ratings. These ratings range from 1 (very inappropriate) to 4 (very appropriate). Higher scores thus indicate higher perceived appropriateness. Overall, women incentivized to match men’s answer give higher ratings than men incentivized to match women’s answers: the average score over the four norms questions is 2.42 for women and 1.99 for men ($p = .000$). In Figure 4 we show the average ratings given by female (left) and male (right) on two separate questions: the first one (labeled ‘scarf’) asks whether it is appropriate for a woman to decide how to spend a small monetary gift on a scarf without consulting her husband; the second (labeled ‘business’) asks the same question about the reinvestment of the woman’s business profits. Women appear to rate autonomous decision-making in a small consumption decision (scarf) as *less* appropriate than in business-related decision ($p = .0225$). In contrast, men rank them equally ($p = .5643$). Neither men nor women give significantly different ratings when matched with a household member or a stranger. This evidence too supports the SDH by showing that women regard different decision categories as regulated by different social norms among men.

Trying to unpack the norms result, we go beyond average ratings and look in detail at the answers given by members of an experimentally matched pair. In particular, we examine the extent to which the answers of married couples are similar. Table 5 tabulates men’s ratings by female ones for each of the four norms questions. Four interesting patterns emerge from the table. First, we see that, while average answers on norms questions are not extremely different for men and women, they are mostly discordant in couples. Except for the scarf-spouse question (Panel A,) where the sum of the diagonal terms (full agreement) is 32% (and 29% for scarf-stranger), in the business questions the diagonal sum hovers around 25%. Second, there does not appear to be any difference in full agreement shares between questions where subjects were matched with a stranger and family member: in other words, family members do not agree more

Figure 4: Incentivised norms ratings (LAB sample only)



on norms than complete strangers. Third, looking at where disagreement occurs, the largest share of pairs is found in the lower triangle, that is, where the husband's rating is 'inappropriate' (answers 1 and 2) but the wife's is 'appropriate' (answers 3 and 4). In Panel D, for instance, 46% of the responses are in that half of the table. In contrast, the opposite half, where men's rating is 'appropriate' but women's is not, has a much lower probability mass. Finally, whenever there is agreement between men and women, it is on low answers.

Panel A: Scarf - spouse		Husband's answer				
		1	2	3	4	Total
Wife's answer	1	11%	8%	6%	2%	26%
	2	13%	15%	7%	1%	36%
	3	6%	6%	3%	4%	19%
	4	6%	9%	2%	2%	18%
	Total	36%	38%	18%	8%	100%
Panel B: Business - spouse		Husband's answer				
		1	2	3	4	Total
Wife's answer	1	14%	12%	2%	2%	31%
	2	10%	6%	5%	1%	22%
	3	7%	6%	2%	4%	19%
	4	10%	13%	3%	2%	28%
	Total	41%	37%	13%	9%	100%
Panel C: Scarf - stranger		Husband's answer				
		1	2	3	4	Total
Wife's answer	1	10%	6%	6%	0%	23%
	2	14%	14%	3%	4%	35%
	3	9%	12%	0%	1%	22%
	4	6%	9%	4%	2%	20%
	Total	38%	42%	14%	6%	100%
Panel D: Business - stranger		Husband's answer				
		1	2	3	4	Total
Wife's answer	1	10%	14%	2%	2%	28%
	2	6%	9%	4%	1%	19%
	3	9%	10%	1%	3%	23%
	4	14%	9%	3%	3%	30%
	Total	39%	42%	10%	9%	100%

Table 5. Incentivized norms questions, disaggregated results (LAB sample only)

The norms ratings could be interpreted as the respondents' own opinions, or, since the questions are incentivized, as respondents' guess of what their partners think. If we follow the first interpretation, then men think it less appropriate for women to make choices on their own than women do. If we follow the second interpretation instead, then men guessed that women would be very conservative while women guessed that men would be fairly permissive. We lean towards the former interpretation. In any case, what is clear from the disaggregated results is that there is no agreement on norms between men and women. This is interesting in light of a discussion, which will be carried on further in the next section, of whether women completely internalize a male-dominant set of norms: if this were the case, then they would have answered these questions differently. This affects our interpretation of the outcome of the preference for agency game that we discuss in the next section.

Unincentivized norms ratings elicited from women in the RCT survey give a more consistent picture with the rest of the data presented in this sub-section. There, respondents were asked to rate the appropriateness of autonomous decision-making in the scarf and business scenarios, without specifying any request to match another person's rating. The unincentivized ratings are significantly higher in the trivial than in the important decision situation (2.77 and 2.39

respectively, $p = .0000$). It is possible that the inconsistent results from the incentivized and unincentivized versions of these questions arise from subjects' confusion in the norms game.

Overall, the results presented in this sub-section reject the hypothesis that individual household members, and in particular women, have the same bargaining weights over all decision realms. Women appear to have less autonomy and voice over important than trivial decisions, and these differences in agency are upheld by (unincentivized) norms of behavior.

5 Testing willingness to pay for agency

Having documented the subordinate status of women in the study population, we now investigate the extent to which women are willing to pay for pure agency, and under what circumstances. We start by reporting reduced-form experimental results in Table 6. The dependent variable is our proxy for willingness to pay for agency, namely, the decision to take half a glass of juice of one's own choice instead of running a 50% chance of being given a full glass of the juice assigned by the partner. Roughly half of the subjects are matched with their spouse (or accompanying person); the rest are matched with stranger of the opposite sex.

In our experiment, there are two main reasons why people may pay to get their preferred juice. The first possibility is that they do not expect the partner to select their preferred flavour – either because the partner is ill-informed, or because the partner, although informed, does not care enough about them to select their preferred beverage. The second possibility is that subjects prefer to make the choice themselves irrespective of what they expect their partner to choose. As shown in Table 6, we find that male subjects are more willing to pay to get their preferred juice than female subjects (27.4% vs. 17.9%, $p=0.0370$). The difference is largest – and statistically significant – with strangers. Contrary to expectations, we find that subjects are more likely to pay to have their own choice when matched with a household member, although this difference is never statistically significant.

	Matched with stranger	N	Matched with spouse	N	t-test (p-value)
Male	25.3%	83	29.4%	85	0.59 (0.5530)
Female	13.3%	83	22.4%	85	1.54 (0.1251)
t-test (p-value)	1.98** (0.0495)	166	1.05 (0.2962)	170	

Table 6. Percentage of subjects paying for agency, by gender and match type

It is not entirely clear what we can conclude from this evidence regarding willingness to pay for pure agency. Subjects matched with a stranger may pay to get their own choice because they do not believe the stranger will select an item of their liking. This could happen because the stranger is not knowledgeable about their taste – and thus picks at random. Alternatively, it could be that the stranger knows their preference – e.g., because that preference has been revealed to them in the experiment – but does not care enough to select their preferred juice for them. In both cases we expect a match with stranger to be less likely to yield one's preferred choice. Yet, if anything, subjects are less likely to pay to get their own choice with a stranger. This is particularly true for women, who seem less inhibited in insisting on their own choice when matched with a household member.

To summarize, women are less willing to pay to have their preferred juice in situations when they are probably *least* likely to get what they like. This finding is a priori difficult to reconcile with preference for pure agency, and it constitutes prima facie evidence of alienation, but especially in interactions with strangers. Before accepting this conclusion, however, we need

to verify that subjects are indeed less likely to get what they like when matched with a stranger and, if so, why.

The experiment is designed to allow us to isolate preferences for agency from low altruism and imperfect information. First, we elicit altruism towards the partner by playing a standard dictator game. Second, we measure knowledge about the partner's preferences by asking subjects to guess the preference ranking of their partner. We also randomize the provision of information about the stated preferences of the partner: half of the subjects receive that information; half do not.

What do we find? One difficulty we encounter is that participants do not necessarily pick their own top ranked juice flavour: they only pick their top ranked choice 75% of the time. The other participants violate the stability axiom, i.e., they do not behave as if they have well defined preferences over the choices offered to them. This may be because they regard different flavours as close substitutes.

We also find that subjects do not guess the stated preference of a household member any better than that of a stranger: 40% and 38.6% of participants guess their partner's top-ranked flavour when matched with a relative and stranger, respectively ($p = .7869$). Female participants are a bit better at guessing a household member's preference (42.4% of the time versus 37.6% for men), but this is not statistically significant ($p = .5340$). Even if subjects cannot guess their partner's preference, they may make the right choice of drink. This happens 47.02% of the time and, although it is more likely when people correctly guess their partner's preference (65.2%), 35.3% of subjects still make the right choice for their partner even when they could not guess their favorite option ($p = .0000$).

A correct choice for the partner is almost twice as likely to happen when people have identical preferences: it occurs 37.2% of the time among partners with different preferences and 60.7% among those with the same preferences ($p = .0000$). Picking the right flavour is thus strongly associated with having similar tastes, especially in the household partner treatment. We also find that subjects are significantly more likely to pick their partner's preferred choice when matched with a household member (54.1% versus 39.8%, $p = .0083$). Higher correlated tastes across participants from the same household can account for this result because members of the same household are more likely to prefer the same juice flavour than strangers (53.5% versus 40.9%, $p = 0.0211$). In line with this interpretation, we also find that subjects are more likely to select their own choice for their partner if they are matched with a household member (53.5% versus 41.0%, $p = .0211$).

Next we examine whether people behave like an altruist, i.e., whether they seek to accommodate their partner's preference to the best of their knowledge. First, we test whether people select for their partner what they believe to be their partner's preferred choice. We find that subjects do not necessarily pick for their partner what they believe to be their partner's top choice – in fact they only do so 56.2% of the time. If people are more altruistic towards family members, picking the partner's preferred choice should be more common this behavior should be more common when matched with a household partner. We find some support for this prediction among male participants: men are more likely to pick their best guess for a household member than for a stranger (60.0% vs. 55.4%, respectively). But this is not true for women – if anything the effect is reversed (49.4% vs. 60.2%, respectively). But none of these differences is statistically different from zero.

Is this result changed when we explicitly communicate information about the partner's preferences? Not really: subjects are only 12 percentage points less likely to pick their own guess about a partner's choice when they have been informed about the partner's stated preference than when they have not ($p = .0225$). The difference between the two information treatments,

however, is smaller with partner matching (6 percentage points, $p = .4207$) than with household matching (18 percentage points, $p = .0152$). In other words, subjects are more responsive to information with household members than with strangers, suggesting that there is more respect for others' preferences in the household matching treatment. Nonetheless it remains that, contrary to expectations, subjects do not fully adjust the choice they make for their partner to the information they receive about the stated preference of this partner: 35% of subjects still pick their best guess of their partner's choice even after being informed that the true partner's ranking is different from their own guess. This share is significantly lower in the household matching (26.0%) than in the stranger matching (44.2%, $p = .0549$). Furthermore, within the household matching treatment, we find that conveying information about the partner's preference has a large effect on male choices, but no significant effect on female choices. The reason is that females are much better at guessing the preference of their partner even when they are not informed of it. In contrast, men and women are equally bad at picking the top choice of a stranger. This suggests that, if anything, within households men are less knowledgeable about their partner's preferences than women.

We now revisit the results presented in Table 6, controlling for information and altruism. The results from linear probability regressions are presented in Table 7, separately for household and stranger matching. The dependent variable equals 1 if the subject opted to receive half a glass of their preferred juice, instead of letting their partner choose with a 50% probability. Standard errors are clustered by matched pairs. Our objective is to test whether the gender gap in selecting to receive half a glass disappears – or at least shrinks – once we control for information and altruism.

In columns 1 and 5 we add a treatment dummy that takes value 1 if the partner is informed of the subject's stated preferences. If subjects expect informed partners to respect their stated preference, we should observe a negative coefficient for the information dummy. Furthermore if women opt for the half glass of preferred juice because they believe the partner does not know their preferences, we should observe a female dummy coefficient that is closer to zero. This is not what we find. The point estimate of the female coefficient is identical to the difference reported in Table 5, namely 12% for stranger matching and 7% for household matching. Statistical significance is also the same. We also find that, if anything, the information treatment *increases* the willingness to avoid drinking a juice selected by a stranger – although the coefficient is not statistically significant. Informing my partner about my preferences thus does not reduce my willingness to pay to guarantee my preferred juice (and may even increase it).

In Columns 2 and 6 we add a control variable equal to the total amount transferred to the subject by the partner in the dictator, taking, and ultimatum games. This amount is taken as proxy for altruism from the partner towards the subject. Subjects matched with a household member know the partner well, and thus should be knowledgeable about their altruism towards the subject. Hence these subjects should expect their partner's choice for them to match their own preferences – thereby obviating the need to opt for the half glass of their preferred juice, unless they have a demand for pure agency. In contrast, subjects matched with strangers would not know who their partner is, and thus would not be able to predict the level of altruism of the specific individual matched with them. For these subjects, the coefficient of the altruism proxy should be zero. The results shown in Table 7 show no difference between the two treatments: coefficient estimates are identically zero, irrespective of whether the subject was matched with a stranger or a household member. Hence knowing that my partner is more altruistic towards me does not reduce my demand for agency.

In columns 3 and 8 we add a dummy equal to 1 if the partner selects the subject's preferred juice in the informed treatment. Of course subjects do not observe this. But those matched

with a household member may be able to predict it. It follows that subjects matched with a household member who did select their preferred juice would expect getting their preferred choice with higher probability. Consequently, they would have less reason to opt for a half glass – unless they demand pure agency. In contrast, subjects matched with a stranger would have no way of predicting what their partner would do, and thus the estimated coefficient on the dummy should be 0. Contrary to expectations, the dummy has a positive coefficient estimate irrespective of matching, and the coefficient on the female dummy is unaffected. Take together, this evidence indicates that willingness to pay for agency does not decrease among subjects who can reasonably expect their partner to select their preferred juice. In other words, opting for the half-glass does not appear to be driven by a desire to receive one’s preferred choice – rather it suggests willingness to pay for pure agency, irrespective of material outcomes.

We also test whether opting for a half-glass is more frequent among less empowered individuals. Our measure of empowerment is similar to that used in the previous section. Results are shown in columns 4 and 8 of Table 7. We find no evidence that this is the case.¹⁷

	Matching with stranger				Matching with household member			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Participant is female	-0.12*	-0.12*	-0.12**	-0.12*	-0.07	-0.08	-0.09	-0.07
	(0.061)	(0.061)	(0.060)	(0.065)	(0.069)	(0.070)	(0.070)	(0.076)
Partner informed of my stated preference	0.07	0.07	0.08	0.07	0.02	0.01	0.02	0.02
	(0.061)	(0.062)	(0.061)	(0.061)	(0.067)	(0.067)	(0.067)	(0.067)
Altruism measured by amount transferred to me by partner in DG, TG and UG”		0.00	0.00			-0.00	-0.00	
Dummy=1 if partner always selects my stated preference in informed treatment		(0.000)	(0.000)			(0.000)	(0.000)	
Proxy for empowerment constructed from empowerment questions			0.10				0.09	
			(0.062)				(0.068)	
Constant	0.22***	0.18	0.11	0.23**	0.29***	0.38***	0.34**	0.28***
	(0.056)	(0.137)	(0.144)	(0.105)	(0.055)	(0.134)	(0.143)	(0.105)
Observations	166	166	166	165	170	170	170	170
R-squared	0.031	0.031	0.046	0.030	0.007	0.011	0.020	0.007
Adjusted R-squared	0.0188	0.0133	0.0221	0.0124	-0.00496	-0.00720	-0.00337	-0.0110

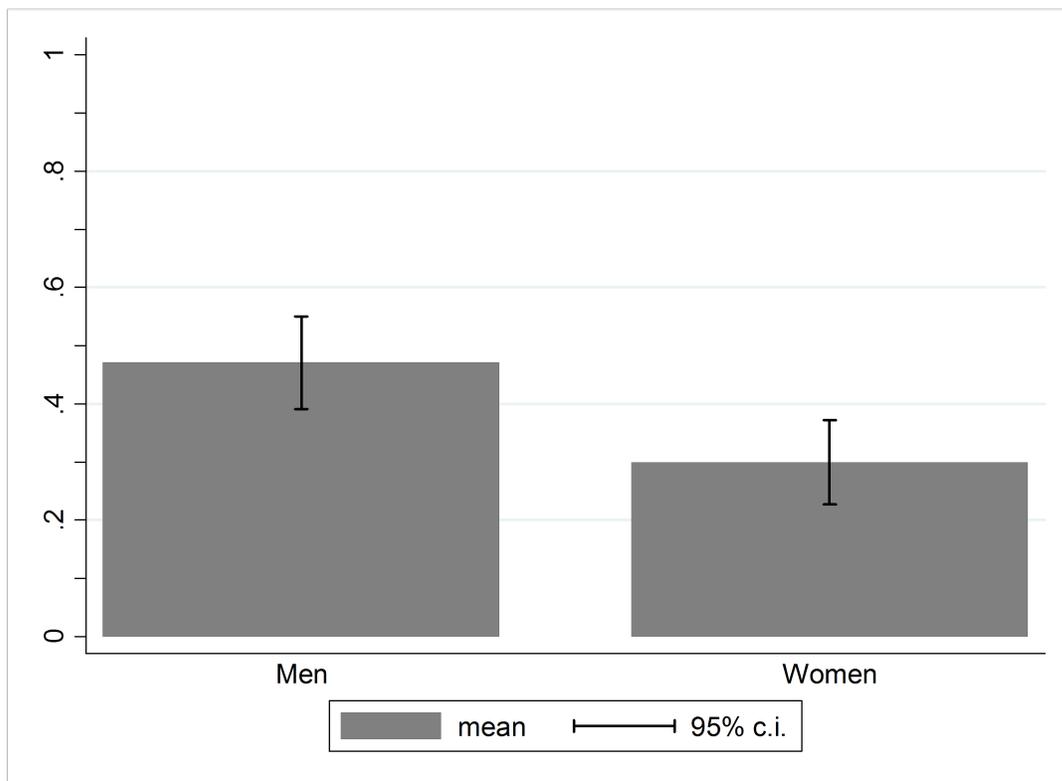
Table 7. Regression results on selecting to receive half a glass of preferred juice

A final piece of evidence on the AVH comes from survey questions administered at the end of the experiment. Each subject was asked whether their spouse knows their favourite pastime, whether their spouse would select their favourite pastime for them, and whether they would prefer to choose by themselves, even if the outcome is the same. We find no difference between men and women in their belief regarding their spouse’s knowledge of their own tastes. But women are significantly more likely to claim that their spouse would pick their favourite pastime for them (32.5% versus 11.0%, $p = .0000$). Furthermore, as shown in Figure 5, 47.1% of men would want to pick their pastime themselves even if their wife picks the right one, compared to only 29.9% of women in the same situation ($p = .0000$). This evidence thus confirms that men appear to be more willing to exert agency than women, independently from the outcome.

To summarize, the experimental and observational evidence presented here support the AVH: individuals have preferences for agency that go beyond the outcome of the decision but concern the decision process itself. Men appear to have stronger preferences for agency than women. Furthermore, we find that women are least willing to exert agency when matched with a unknown

¹⁷Identical results obtain if we interact the empowerment proxy with the female dummy.

Figure 5: Preferences for agency, survey questions (RCT sample only)



man from their neighborhood. Taken together, these results are consistent with the idea that women in our study have internalized norms of conduct that limit their decision autonomy, and that these norms are stronger outside the family sphere.

6 Conclusion

In this paper we have investigated female empowerment in the Pakistan Punjab. Our study population is composed of urban and peri-urban households with a medium to low income. These households derive much of their income from self-employment and casual work, although some of their members are in permanent wage employment. As such, this population is fairly representative of the median household in much of South Asia.

Theoretical and empirical work on intra-household decision making capture empowerment through bargaining weights given to individual preferences. Such weights are then inferred from household consumption allocations. In this paper we test two key hypotheses underlying this work: first, that the sharing rule is the same for all private consumption goods; and second, that household members only care about their final consumption, not about the process by which consumption decisions are made. We use data from a survey and a novel laboratory experiment implemented with adult couples. The experiment is designed to separate the pure value of ‘empowerment’, that is, the right to choose, from the value of having one’s preferred choice selected.

We find that women’s involvement in decision making is decreasing in the importance of the decision, thus rejecting the constant sharing rule hypothesis. We also find that women are less

willing to pay to have their preferred option implemented in the lab, suggesting that they have internalized their lower agency in the household.

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8 Appendix A: Appendix Tables and Figures

	Need permission index (sum of need permission questions)		
	Women RCT sample	Women LAB sample	Men LAB sample
	(1)	(2)	(3)
HH head	-3.757*** (0.216)	-4.499*** (0.409)	-1.807*** (0.437)
Age	-0.056*** (0.008)	-0.040** (0.018)	-0.012* (0.007)
Literate	0.129 (0.159)	-0.052 (0.365)	-0.478*** (0.148)
Constant	7.921*** (0.298)	7.310*** (0.742)	3.121*** (0.552)
Number of Obs.	1553	157	155
R-Squared	0.227	0.342	0.378

Table A1. Need permission index

	Opinion taken into account index (sum of opinion taken into account questions)
	(1)
HH head	0.284 (0.301)
Age	0.056*** (0.011)
Literate	0.574** (0.251)
Constant	6.853*** (0.465)
Number of Obs	1553
R-Squared	0.029

Table A2. Opinion taken into account index

9 Appendix B: Survey questionnaire

Panel A: Survey questions for SDH

Question	Description	Answer codes	Sample the question is administered to
household_12	<p>Do you need to ask someone's permission for making the following decisions, and if yes from whom?</p> <ol style="list-style-type: none"> Purchasing ice cream for children Purchasing grocery Purchasing medicine for myself Purchasing personal cosmetics/clothing Taking a child to a doctor Purchasing children's books / clothes Purchasing furniture Purchasing refrigerator / TV Sale of personal jewelry 	<ol style="list-style-type: none"> Nobody Husband Mother-in-law/father-in-law Son Daughter Other male Other female 	RCT (women only) and LAB sample
household_13	<p>Are your preferences/opinion taken into consideration when making the following types of decisions within your household?</p> <ol style="list-style-type: none"> Decisions regarding boys' schooling Decisions regarding girls' schooling Decisions regarding your children's marriage Decision regarding your medical care Decision regarding your children's medical care Decision regarding family planning Social visits to your family Social visits in the neighbourhood Social visits to your husband's family Decision to work for earned income Decision to borrow money from an MFI Purchase of HH appliances (refrigerator, TV, etc) Decision about house repair Decision regarding sale/purchase of house 	<ol style="list-style-type: none"> Always Most of the time Some of the time Rarely Never 	RCT (women only) sample
doing_40	<p>Imagine that a woman would like to buy a scarf for herself, using money she has been given by her parents as a gift. Her husband offers to go and buy the scarf for her. She can let her husband go shopping for her, or she can go herself. She decides to go shopping by herself.</p> <p>How appropriate do you think it is for the woman to buy the scarf by herself?</p>	<ol style="list-style-type: none"> Highly inappropriate Appropriate Neutral Appropriate Highly appropriate 	RCT (unincentivised, women only); LAB (incentivised)
doing_41	<p>Imagine that a woman is running a business from her home. At the end of the month, she has some profits to re-invest. She can ask her husband to re-invest them for her, or she can choose herself, without consulting him. She decides to re-invest her profits in what she thinks best, without consulting her husband.</p> <p>How appropriate do you think it is for the woman to make the investment decision on her own?</p>	<ol style="list-style-type: none"> Highly inappropriate Appropriate Neutral Appropriate Highly appropriate 	RCT (unincentivised, women only); LAB (incentivised)

Panel B: Survey questions for AVH

Question	Description	Answer codes	
consumption_11	What is your favorite pastime?		RCT (women only) and LAB sample
consumption_14	Does your husband /the person who is accompanying you to the session today know which is your favorite pastime?	1: Yes 2: No	RCT (women only) and LAB sample
consumption_17	What is the favorite pastime of your husband/the person who has accompanied you to the session today?		RCT (women only) and LAB sample
consumption_21	If your husband/the person who accompanied you to the session today had to select a pastime for you, would she/he select your favorite pastime?	1: Always 2: Sometimes 3: Never 4: I don't know	RCT (women only) and LAB sample
consumption_25	Even if your husband/the partner who accompanied you selects your favorite pastime for you, would you still prefer to select a pastime yourself?	1: I want to select by myself 2: I prefer if my spouse consults me before selecting 3: I am happy to delegate the selection to my spouse	RCT (women only) and LAB sample

10 Appendix C: Experimental protocol

Sequence of events during experiment sessions:

1. Upon arrival, subject pairs are assigned to their respective gender-specific room. 74.4% of the participants came with their spouse; 14.88% with their son and 10.72% with male household members (for instance, brother, brother-in-law).
2. Each subject pair is randomly assigned to a matching treatment: either with spouse/household member they came with; or with stranger of opposite gender. 50.6% of the participants were paired with family member and 49.4% are paired with a stranger.
3. Each subject in the stranger matching treatment is assigned a partner; this is done without replacement, which means that all subjects in the stranger treatment have one partner and one partner only; by construction, the partner is not the household member they came with
4. Half of the subjects are randomly assigned to the information treatment. The randomization is done by pair ID codes assigned at the start of the treatment.
5. No contact is allowed between subjects of opposite genders during the entire experiment. Men and women are seated in separate rooms
6. Subjects of the same gender are seated in compartments separated by cardboard sheets. Contact between subjects in the same room is strongly discouraged but not impossible.
7. Preference game is always played first in each session.
 - Subjects taste small samples of the three juice flavors.
 - Subjects rank the three flavors by order of preference.
 - Subjects pick the flavor they want to receive a full glass of.
 - Subjects guess the preference ordering of their partner.
 - Subjects in the information treatment are informed of the preference order of their partner.
 - Subjects pick the flavor they want their partner to receive a full glass of.
 - Subjects choose whether to take half-a-glass of their selected flavor, or 50% chance of a full glass of their selected flavor and 50% chance of a full glass of the flavor selected for them by their partner.
 - A coin toss determines which flavor the subject receives.
 - Subjects consume the juice.
8. Subjects play the Dictator (D), Taking (T) and Ultimatum (U) activities. The order of play is randomized across sessions as follows:

Game Order	Session No.
D-T-U	7,11,15,
D-U-T	3,5,9
T-U-D	1
T-D-U	4
U-D-T	2,6,8
U-T-D	10,13

9. The last activity is played. This is always the norms elicitation activity. Subjects answer two incentivized questions about financial autonomy of women. The two questions are answered twice; once the answers are matched to the spouse and once the answers are matched to a random stranger sitting in the next room. Subjects receive a fixed payoff of Rs. 250 for every question matched to a person sitting in the next room. Question about an ordinary purchase (scarf) is always asked before the question on investment decision. The order in the which answer is matched to either the household member or stranger is randomised. This order of matching is as follows:

Answers Matched to:	Session No.
Household member, Stranger	1, 3, 5, 7, 9, 11, 13, 15
Stranger, Household member	2, 4, 6, 8, 10, 12, 14

10. Show-up fee + pay off from randomly selected activity (DG/TG/UG/norms) is paid to each participant in cash. The participants are provided this case in white envelopes and in privacy.

We reproduce below the full protocol used in the experiment. The text below was read in Urdu to all participating subjects during the experiment. Square brackets [] contain instructions for enumerators.

10.1 Introduction to the community

Thank you [Community Head name or NRSP representative?], for organizing this meeting and allowing us to be here.

Also, thank you all for taking the time to be here today. My name is [experimenter’s name], and I will be facilitating this meeting. Helping me today, we also have here [introduce everyone]. Before we start, we would like to give you Rs ---- as a compensation for your time. These Rs ---- are not a part of the activity and are yours to keep.

Purpose

- Today, we will conduct several activities in your community.
- The purpose of these activities is to better understand how people in this community make decisions.
- The results of the study may eventually be published in a scientific article or part of a book.
- It is not part of a development project of any sort.
- Your community and other communities around [Province name] were selected to participate from a large group of potential communities.

10.2 Activities

We will perform several tasks here today. At the end of all the tasks, we will draw a number from this hat [show numbers and hat]. Each number represents one of the tasks that you will have performed, number 1 for task 1, number 2 for task 2, and so on. The number that is drawn will determine which task is paid to you. This means that every task that you play today has the same chance of being paid to you. So you have to be careful to choose exactly what you

want for each task, because that decision can be the one that determines your payment at the end. Is this clear to everyone? Do you have questions on this?

For our activities, we will select 20 participants. In a moment, I will explain how we select the participants. Before that, I want to make some general comments. Participants will be performing some tasks in exchange for real money that they will be able to take home. You should understand that this is not my money. It is money given to me by Oxford University, to use to conduct a research study.

- We only need 20 individuals to participate in these tasks. Thus, unfortunately, not all of you will be able to participate.
- We will have a lottery to determine who will participate.
- To complete the lottery, we will write down your name and the name of your spouse on a piece of paper and then, fold the paper in half.
- Next, you will place your folded piece of paper in a bag.
- This means that we need one piece of paper for each couple present here today.
- We will then ask one of you to draw 10 pieces of paper from the bag containing the names.
- Those whose names are drawn will stay here and participate in the tasks, while the others will go home.

Is this clear to everyone? Does anyone have any questions on how we will select the 20 participants?

Please note that the meeting may take 3-4 hours, so if you think you will not be able to stay that long please let us know now.

10.3 Consent

- Before we begin, I will explain the basic activities we will do together, and the rules that we will follow.
- [Read Consent Statement]

If you wish to participate, please say, “I do.” If you do not wish to participate, please advise us. You will be free to leave then. You will not be able to stay in the activity room(s) if you do not wish to participate.

[Random draw of names]

Those of you, whose names have not been called, can leave now. Thank you all for taking the time to come today.

[After people have left]

You will be matched with a partner for some of the tasks that you will perform today. Who your partner is depends on a random draw.

- We will now ask one member of each couple to draw a card from this bag [Hold bag up and show its content].
- The bag contains 5 yellow cards and 5 green cards.

- If you draw a yellow card, we will give you and your spouse a yellow name tag to wear. If you draw a green card, we will give you and your spouse a green name tag to wear.
- The color of the card you draw will determine who your partner is for some of the tasks today.

We will explain more about your partner later, but for now we will go around the room for the random draw and to distribute the name tags.

[After people have been assigned to the spouse or stranger matching]

We will now take all women to one room, and all men to another room. Please follow [Assistant's name] if you are a woman, or [Assistant's name] if you are a man.

[Take the selected participants into the rooms and have them sit.]

[To the participants]

10.4 Introduction to participants

Welcome, and thank you again.

- Before we proceed any further, let me stress something that is very important. Many of you were invited here without understanding very much about what we are planning to do today. If at any time you find that this is something that you do not wish to participate in for any reason, you are of course free to leave at anytime. If you do choose to leave, you won't be able to come back into the activity room(s) until everyone is finished performing all the activities.
- Before we start, please make sure your mobile phones are switched off, to avoid interruptions during the meeting.
- If you have heard about activities that have been conducted here in the past you should try to forget everything that you have been told. These are completely different tasks.
- Please also be advised, there are no right or wrong choices, so you should choose whatever you think is best for yourself and not look at your neighbor's choices. It is important to remember that not everyone will win the same amount in the task. Everyone will still receive the [Rs 150] payment for participation, regardless of how much you win in the task.
- We are about to begin. It is important that you listen as carefully as possible to the instructions, because only people who understand the tasks will actually be able to perform them. I will run through some examples to make sure you understand.
- You cannot ask questions out loud or talk about the tasks with anyone else while we are here together.
- If you have questions at any time during the meeting, please raise your hand and ask, and we will come to you and answer them in private.
- I will read through a script to explain all the activities that we will perform here today. As you may know, these activities are conducted in other localities beside this one, so it is very important that people in every locality receive exactly the same information, and this is the reason why I must read from this script.

NO TALKING

- I will now say something very important. You cannot ask questions out loud or talk about the tasks with anyone else while we are here together.
- If you need to ask a question at any time, please raise your hand and I will come to you so I can answer your question privately.
- I will explain the tasks, do demonstrations, and let you practice the tasks before we perform them for real. These demonstrations and practices are to help you understand the rules and clarify any questions.
- Please be sure that you obey these rules because it is possible for one person to spoil the tasks for everyone by talking in front of the group. If this happens, we will not be able to continue forward with the tasks today and you will not be paid for the tasks.
- Is this clear to everyone? Does anyone have any questions so far about what will go on today?

[If anyone asks a question out loud, explain again that all questions must be asked in private]

REAL PAYMENT

- In today's activities, you will have the opportunity to receive a cash payment. The amount that you will receive depends on your decisions and on the decisions of others. It also depends on what task is selected to be paid.
- Remember that at the end of all the activities, we will draw a number from a hat. That number will determine for which task you will be paid. This means that each task that you perform has the same chance of being selected to be paid.
- Remember also, that in addition to what you will earn from the activities, each of you will receive Rs 150 for participating in today's meeting. This money is yours, regardless of what happens during the activities. It will be paid to you in cash together with your earnings from the activities.
- It is real money, which you will be allowed to keep for yourself or do what you wish. This money will be paid to you in cash at the end of the meeting.
- During the activities you will make your decisions using paper slips [show slips], each representing 100 Rs. These paper slips will be converted into cash when you get paid at the end of the meeting.

CONFIDENTIALITY

- Your decisions and your payment are private and confidential. Nobody, apart from a member of our team will know what you earned, and he/she will not tell anyone.
- You all have a dark bag. You will have to make your decisions inside the bags, so that nobody else can see what you decide.

10.5 Instructions for preferences game (Task 1)

We are now ready to begin a task. Let me remind you that you may not ask questions or talk while you are here in the group. If you have any questions, you may raise your hand and I (the enumerator) or my assistant(s) will come answer your question privately. This is NOT the same task that you just performed, so be sure to listen to the instructions carefully.

Who will be your partner in this task? You remember that earlier we asked you to draw a card. Half of you drew yellow cards, the other half drew green cards. Your partner for this task is determined by the color of the card you drew.

- Those of you who drew a green card will be paired with a stranger in the other room. None of you will know exactly with whom you are paired. Only [researcher's name] knows who is matched with whom, and she/he will never tell anyone. [If this is not the first task: Your partner in this task is the same as the one in the previous task.]
- Those of you who drew a yellow card will be paired with their spouse in the other room.

Do you have questions on who your partner will be in this task? If you have questions, please raise your hand and I will come to you to answer your question privately.

[If this is not the first task: Your partner for this task is the same as the one for the previous task(s). That is, for those of you who drew a green card, your partner will be the same stranger in the other room that was paired with you in the previous task(s), while for those of you who drew a yellow card, your partner will be your spouse in the other room.]

10.5.1 Part 1:

I have here three different flavors of juice – apple, pineapple and orange. Before we begin this task, I would like you to taste each of these flavors and rank them on the basis of how much you like them. You should rank your favored flavor as number 1, your second-favored flavor as number 2, and your least favored flavor as number 3. You cannot rank two flavors equally. My assistant(s) will offer you a sample of the three flavors of juice, and then you should write down your ranking on the sheet we will provide you. [Distribute a sheet with pictures of the 3 fruits, subjects should write a number next to each fruit representing the ranking.]

Does anyone have any questions? Please raise your hand and my assistant or I will come and address your query.

10.5.2 Part 2:

Your partner in the other room has also been asked to rank the three flavors of juice. We would like you to guess your partner's ranking. We will now distribute a sheet, where you can write your guess. We will give you Rs. ___ for guessing correctly! This money will be paid to you at the end of all activities, on top of your earnings from the task that is randomly selected to be paid.

10.5.3 Part 3:

Now, we will distribute to half of you a sheet, containing the ranking given by your partner. The others will not know how your partner ranked the juice flavors.

[The experimenter and assistants distribute to a randomly selected half of participants (half from each group) the partner's ranking sheet.]

Now I would like for you to make two decisions:

- Choose what flavor you would like to consume.
- Choose a flavor for your partner to consume. It does not have to be the same flavor that you choose for yourself, nor it must necessarily be your partner's preferred flavor, if you know it.
- In the other room, your partner is being asked to do the same.
- There is a fifty percent chance that you will be given the flavor that you chose for yourself, and a fifty percent chance that you will be given the flavor that your partner chose for you. Similarly, your partner has a fifty percent chance to be given the flavor that he or she chose for him or herself, and a fifty percent chance to be given the flavor that you chose for him or her.
- Neither you nor your partner will be able to exchange the juice you are given with anyone else.

Shall we begin? Does anyone have any questions? Please raise your hand and my assistant or I will come and address your query.

We will now distribute a decision sheet, where you can mark your choices [Distribute a decision sheet, with space to record one choice for the subject and one for the partner]

Please fill in your choice in the sheet of paper in front of you and fold it to let us know you are done. My assistants and I will come and collect your decision sheet.

10.5.4 Part 4:

We will now call you one by one to the back of the room and give you your juice. We will fill a large glass of juice for you [Show glass: the glass should be opaque, so that others cannot see how much juice is in it]. Remember, there is a fifty percent chance that you will get your favorite flavor, and a fifty percent chance that you will get the flavor that your partner picked for you. How will we decide if you'll get your favorite flavor or your partner's pick? We will toss a coin when we come to you. If the coin toss yields heads, then you will be given your favorite flavor; if tails, your partner's pick.

When we call you to give you your juice, before knowing whether you'll get your favorite flavor or your partner's pick for you (i.e. before tossing the coin), we will give you the opportunity to make sure you get your favorite flavor.

How? If you are willing to give up some of the juice, we will give you your favorite flavor of juice for sure. So, if you choose to have your favorite juice for sure, you will be given only half a glass of it. If instead you choose to have your favorite juice with a fifty percent chance, or your partner's pick with a fifty percent chance, then you'll be given a full glass of it.

We will now call you one by one.

[At individual meetings] Here I have the piece of paper with your ranking of the juice flavors, another piece of paper with your partner's pick for you, and a coin that I will toss to determine if you will get one full glass of your favorite flavor or of your partner's pick.

Would you like me to toss the coin and get a full glass of juice, or would you like to get your half a glass of your favorite flavor for sure? [record decision and implement it].

10.6 Instructions for dictator game (Task 2)

[Note: before each session, the order of tasks 1-3 is randomized]

We are now ready to begin another/the first task. Let me remind you that you may not ask questions or talk while you are here in the group. If you have any questions, you may raise your hand and I (the enumerator) or my assistant(s) will come answer your question privately. [If this is not the first task] This is NOT the same task that you just performed, so be sure to listen to the instructions carefully.

- This task is performed by pairs of individuals. Each pair is made up of a Player 1 and a Player 2. We will play two rounds of this task.
- Each of you will perform this task with someone from the other room.
- Who your partner is depends on the color of the card you drew earlier, as I will explain to you shortly.
- [researcher's name] will provide \$10 to Player 1 in each pair of players..
- Player 1 must decide how to divide this money between himself or herself and Player 2. Player 1 may allocate between \$0 and \$10 to Player 2.
- Player 2 takes home whatever Player 1 allocates to them, and Player 1 takes home whatever he or she does not allocate to Player 2.

Who will be your partner in this task? You remember that earlier we asked you to draw a card. Half of you drew yellow cards, the other half drew green cards. Your partner for this task is determined by the color of the card you drew.

- Those of you who drew a green card are paired with a stranger in the other room. None of you will know exactly with whom you are paired. Only [researcher's name] knows who is matched with whom, and she/he will never tell anyone.
- Those of you who drew a yellow card are paired with your spouse in the other room.

Do you have questions on who your partner is for this task? If you have questions, please raise your hand and I will come to you to answer your question privately.

[If this is not the first task: Your partner for this task is the same as the one for the previous task(s). That is, for those of you who drew a green card, your partner is the same stranger in the other room that was paired with you in the previous task(s), while for those of you who drew a yellow card, your partner is your spouse in the other room.]

We now run through 5 examples to show how the task might be performed.

[Notes: the researchers and assistants work through the examples and test questions with paper slips, each representing a 100 Rs note, on a flat surface with a line drawn on it demarcating the areas assigned to Players 1 and 2. Each of the examples presented below is presented either as an example or used as a test question as required. If more test questions are needed the researcher or assistant begin again with the first example above. The script below is written assuming that 6 more examples were given, 3 presented as test scenarios/practice rounds, i.e., the subjects are asked questions about the amounts the subjects would take home. The 11 examples/tests – 5 above, 6 below – cover the full set of possible choices for Player 1.]

1. Here is the \$10. Imagine that Player 1 chooses to allocate \$9 to Player 2. Then, Player 2 will go home with \$9 and Player 1 will go home with \$1 (\$10 minus \$9 equals \$1).

2. Here is another example. Imagine that Player 1 chooses to allocate \$2 to Player 2. Then, Player 2 will go home with \$2 and Player 1 will go home with \$8 (\$10 minus \$2 equals \$8).
3. Here is another example. Imagine that Player 1 chooses to allocate \$5 to Player 2. Then, Player 2 will go home with \$5 and Player 1 will go home with \$5 (\$10 minus \$5 equals \$5).
4. Here is another example. Imagine that Player 1 chooses to allocate \$7 to Player 2. Then, Player 2 will go home with \$7 and Player 1 will go home with \$3 (\$10 minus \$7 equals \$3).
5. Here is another example. Imagine that Player 1 chooses to allocate zero to Player 2. Then, Player 2 will go home with zero and Player 1 will go home with \$10 (\$10 minus zero equals \$10).

[The experimenter and assistants hand out two envelopes for each subject. Each envelope features the subject's ID. The two envelopes are of different color. Moreover, Player 1's [2's] envelope has a 1 [2] written on it.]

We will now practice the task together. You will first practice the task as Player 1. You have been handed two envelopes. The yellow [or other color] one with 10 paper slips in it is the one that determines Player 1's payment. The other envelope, the blue [or other color] one, is empty and the paper slips you put in it will determine the payment to Player 2. As we work through the following examples, please put the paper slips into the empty envelope as indicated by the examples. We will walk around the room to check if your allocation matches the one from the example. This is important, because it allows us to make sure that everyone understands the task and how to make the decision.

Here are some more examples [The experiment assistants go around the room to check that subjects correctly place the paper slips into the envelopes. The experimenter explains the task again if mistakes are discovered]:

1. Imagine that Player 1 chooses to allocate \$10 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. How much will Player 2 go home with? And how much will Player 1 go home with? [Player 2 will go home with \$10 and Player 1 will go home with zero (\$10 minus \$10 equals zero).]
2. Here is another example. Imagine that Player 1 chooses to allocate \$4 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. How much will Player 2 go home with? And how much will Player 1 go home with? [Player 2 will go home with \$4 and Player 1 will go home with \$6 (\$10 minus \$4 equals \$6).]
3. Here is another example. Imagine that Player 1 chooses to allocate \$6 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. How much will Player 2 go home with? And how much will Player 1 go home with? [Player 2 will go home with \$6 and Player 1 will go home with \$4 (\$10 minus \$6 equals \$4).]
4. Suppose that Player 1 chooses to allocate \$1 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. In this case, how much will Player 1 go home with? [\$9] And how much will Player 2 go home with? [\$1]
5. Now try this one. Suppose that Player 1 chooses to allocate \$8 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. In this case, how much will Player 1 go home with? [\$2] And how much will Player 2 go home with? [\$8].

6. Now try this one. Suppose that Player 1 chooses to allocate \$3 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. In this case, how much will Player 1 go home with? [\$7]. And how much will Player 2 go home with? [\$3].
- [Before each session, the order of rounds is randomly determined] You will all perform one round as player 1 and one round as player 2. You will first perform the task as Player 1 [or 2, depending on randomization], and then perform the task as Player 2 [or 1].
 - We don't know yet whether you will be paid for this task, nor whether you will be paid for your decisions as Player 1 or as Player 2. How will we choose whether to pay you for this task, and whether to pay you as Player 1 or Player 2? After we have finished performing all the tasks, we will first draw a number from the hat [show again numbers and hat] to determine which task will be paid. If we draw the number 1 from the hat, then it means that this task is the one selected to be paid. If so, we will toss a coin: if heads come up then you will be paid as Player 1; if tails come up, we will pay you as Player 2.

[For Player 1s] You will now perform the task as Player 1. You have been handed two envelopes. The yellow [or other color] one with 10 paper slips in it is the one that determines your payment. The other envelope, the blue [or other color] one, is empty and the paper slips you put in it will determine the payment to Player 2. Please put the paper slips you want to give to player to the empty envelope. Please make sure your choice is not observed by others in the room. You must now wait while the rest of the players, finish performing the task. [If Player 1 is selected to be the first role to be played] Then we will play the second round of this task, where you are Player 2.

[The experimenter and assistants collect the envelopes.]

[For Player 2s] You will now perform the task as Player 2. Player 1 in the other room who has been matched with you has allocated a sum of money to you. After we finish performing all the activities, if this task and the role of Player 2 is the one selected to be paid I will pay you what Player 1 has allocated to you.

We will now perform another task/We will now take a break. [Researcher's name] will pay you for this task [point to the pile of envelopes to demonstrate the amount] after we finish all the tasks, if this task is the one selected to be paid.

10.7 Instructions for taking game (Task 3)

We are now ready to begin another/the first task. Let me remind you that you may not ask questions or talk while you are here in the group. If you have any questions, you may raise your hand and I (the enumerator) or my assistant(s) will come answer your question privately. [If this is not the first task: This is NOT the same task that you just performed, so be sure to listen to the instructions carefully.]

- This task is performed by pairs of individuals. Each pair is made up of a Player 1 and a Player 2. We will play two rounds of this task.
- Each of you will perform this task with someone from the other room.
- Who your partner will be depends on the color of the card you drew earlier, as I will explain to you shortly.
- [researcher's name] will provide \$10 to Player 2 in each pair of players..

- Player 1 (not Player 2) decides how to divide this money between himself or herself and Player 2. Player 1 must allocate between \$0 and \$10 to himself, leaving the rest for player 2.
- Player 2 takes home whatever Player 1 leaves them with, and Player 1 takes home whatever he or she does not leave to Player 2.

Who will be your partner in this task? You remember that earlier we asked you to draw a card. Half of you drew yellow cards, the other half drew green cards. Your partner for this task is determined by the color of the card you drew.

- Those of you who drew a green card will be paired with a stranger in the other room. None of you will know exactly with whom you are paired. Only [researcher's name] knows who is matched with whom, and she/he will never tell anyone. [If this is not the first task: Your partner in this task is the same as the one in the previous task.]
- Those of you who drew a yellow card will be paired with their spouse in the other room.

Do you have questions on who your partner will be in this task? If you have questions, please raise your hand and I will come to you to answer your question privately.

[If this is not the first task: Your partner for this task is the same as the one for the previous task(s). That is, for those of you who drew a green card, your partner will be the same stranger in the other room that was paired with you in the previous task(s), while for those of you who drew a yellow card, your partner will be your spouse in the other room.]

We will now run through 5 examples to show you how the task might be performed:

[Notes: the researchers and assistants work through the examples and test questions with paper slips, each representing a 100 Rs note, on a flat surface with a line drawn on it demarcating the areas assigned to Players 1 and 2. Each of the examples presented below is presented either as an example or used as a test question as required. If more test questions are needed the researcher or assistant begin again with the first example above. The script below is written assuming that 6 more examples were given, 3 presented as test scenarios/practice rounds, i.e., the subjects are asked questions about the amounts the subjects would take home. The 11 examples/tests – 5 above, 6 below – cover the full set of possible choices for Player 1.]

1. Here is the \$10 given to Player 2. Imagine that Player 1 chooses to leave \$9 to Player 2. Then, Player 2 will go home with \$9 and Player 1 will go home with \$1 (\$10 minus \$9 equals \$1).
2. Here is another example. Imagine that Player 1 chooses to leave \$2 to Player 2. Then, Player 2 will go home with \$2 and Player 1 will go home with \$8 (\$10 minus \$2 equals \$8).
3. Here is another example. Imagine that Player 1 chooses to leave \$5 to Player 2. Then, Player 2 will go home with \$5 and Player 1 will go home with \$5 (\$10 minus \$5 equals \$5).
4. Here is another example. Imagine that Player 1 chooses to leave \$7 to Player 2. Then, Player 2 will go home with \$7 and Player 1 will go home with \$3 (\$10 minus \$7 equals \$3).
5. Here is another example. Imagine that Player 1 chooses to leave zero to Player 2. Then, Player 2 will go home with zero and Player 1 will go home with \$10 (\$10 minus zero equals \$10).

[The experimenter and assistants hand out two envelopes for each subject. Each envelope features the subject's ID. The two envelopes are of different color. Moreover, Player 1's [2's] envelope has a 1 [2] written on it.]

We will now practice the task together. You will first practice the task as Player 2. You have been handed two envelopes. The blue [or other color] one with 10 paper slips in it is the one that determines Player 2's payment. The other envelope, the yellow [or other color] one, is empty and the paper slips you put in it will determine the payment to Player 1. As we work through the following examples, please put the paper slips into the empty envelope as indicated by the examples. We will walk around the room to check if your allocation matches the one from the example. This is important, because it allows us to make sure that everyone understands the task and how to make the decision.

Here are some more examples [The experiment assistants go around the room to check that subjects correctly place the paper slips into the envelopes. The experimenter explains the task again if mistakes are discovered]:

1. Imagine that Player 1 chooses to leave \$10 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. How much will Player 2 go home with? And how much will Player 1 go home with? [Player 2 will go home with \$10 and Player 1 will go home with zero (\$10 minus \$10 equals zero).]
 2. Here is another example. Imagine that Player 1 chooses to leave \$4 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. How much will Player 2 go home with? And how much will Player 1 go home with? [Player 2 will go home with \$4 and Player 1 will go home with \$6 (\$10 minus \$4 equals \$6).]
 3. Here is another example. Imagine that Player 1 chooses to leave \$6 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. How much will Player 2 go home with? And how much will Player 1 go home with? [Player 2 will go home with \$6 and Player 1 will go home with \$4 (\$10 minus \$6 equals \$4).]
 4. Suppose that Player 1 chooses to leave \$1 to Player 2. In this case, how much will Player 1 go home with? [\$9] And how much will Player 2 go home with? [\$1]
 5. Now try this one. Suppose that Player 1 chooses to leave \$8 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. In this case, how much will Player 1 go home with? [\$2] And how much will Player 2 go home with? [\$8].
 6. Now try this one. Suppose that Player 1 chooses to leave \$3 to Player 2. Please place the paper slips into the blue envelope corresponding to this decision. In this case, how much will Player 1 go home with? [\$7]. And how much will Player 2 go home with? [\$3].
- [Before each session, the order of rounds is randomly determined] You will all perform one round as Player 1 and one round as Player 2. You will first perform the task as Player 1 [or 2, depending on randomization], and then perform the task as Player 2 [or 1].
 - We don't know yet whether you will be paid for this task, nor whether you will be paid for your decisions as Player 1 or as Player 2. How will we choose whether to pay you for this task, and whether to pay you as Player 1 or Player 2? After we have finished performing all the tasks, we will first draw a number from the hat [show again numbers and hat] to determine which task will be paid. If we draw the number 1 from the hat, then it means that this task is the one selected to be paid. If so, we will toss a coin: if heads come up then you will be paid as Player 1; if tails come up, we will pay you as Player 2.

[For Player 1s] You will now perform the task as Player 1. You have been handed two envelopes. The blue [or other color] one with 10 paper slips in it is the one that determines Player 2's payment. The other envelope, the yellow [or other color] one, is empty and the paper slips you put in it will determine your payment. Please put the paper slips you want to allocate to yourself in the empty envelope. Please make sure your choice is not observed by others in the room. You must now wait while the rest of the players, finish performing the task. [If Player 1 is selected to be the first role to be played] Then we will play the second round of this task, where you are Player 2.

[The experimenter and assistants collect the envelopes.]

[For Player 2s] You will now perform the task as Player 2. Player 1 in the other room who has been matched with you has left you with a sum of money. After we finish performing all the activities, if this task and the role of Player 2 is the one selected to be paid I will pay you what Player 1 has left you with.

We will now perform another task/We will now take a break. [Researcher's name] will pay you for this task [point to the pile of envelopes to demonstrate the amount] after we finish all the tasks, if this task is the one selected to be paid.

10.8 Instructions for ultimatum game (Task 4)

We are now ready to begin another/the first task. Let me remind you that you may not ask questions or talk while you are here in the group. If you have any questions, you may raise your hand and I (the enumerator) or my assistant(s) will come answer your question privately. [If this is not the first task: This is NOT the same task that you just played, so be sure to listen to the instructions carefully.]

- This task is performed by pairs of individuals. Each pair is made up of a Player 1 and a Player 2. We will play two rounds of this task.
- Each of you will perform this task with someone from the other room.
- Who your partner will be depends on the color of the card you drew earlier, as I will explain to you shortly.
- [researcher's name] will provide \$10 to Player 1 in each pair of players..
- Player 1 decides how to divide this money between him or herself and Player 2. Player 1 must allocate between \$0 and \$10 to himself, leaving the rest for Player 2.
- Before hearing the offer made to them by Player 1, Player 2 has to state whether he or she would accept or reject each of the possible offers between \$0 and \$10 that Player 1 could have made.
- If Player 2 has stated that he or she would accept Player 1's offer, then Player 2 gets the amount of the offer and Player 1 gets the remainder. If Player 2 has stated that he or she would reject Player 1's offer, then Player 1 and Player 2 receive no money for this task.

Who will be your partner in this task? You remember that earlier we asked you to draw a card. Half of you drew yellow cards, the other half drew green cards. Your partner for this task is determined by the color of the card you drew.

- Those of you who drew a green card will be paired with a stranger in the other room. None of you will know exactly with whom you are paired. Only [researcher's name] knows who is matched with whom, and she/he will never tell anyone. [If this is not the first task: Your partner in this task is the same as the one in the previous task.]
- Those of you who drew a yellow card will be paired with their spouse in the other room.

Do you have questions on who your partner will be in this task? If you have questions, please raise your hand and I will come to you to answer your question privately.

[If this is not the first task: Your partner for this task is the same as the one for the previous task(s). That is, for those of you who drew a green card, your partner will be the same stranger in the other room that was paired with you in the previous task(s), while for those of you who drew a yellow card, your partner will be your spouse in the other room.]

We will now run through 5 examples to show you how the task might be performed:

[Notes: the researchers and assistants work through the examples and test questions with paper slips, each representing a 100 Rs note, on a flat surface with a line drawn on it demarcating the areas assigned to Players 1 and 2. Each of the examples presented below is presented either as an example or used as a test question as required. If more test questions are needed the researcher or assistant begin again with the first example above. The script below is written assuming that 6 more examples were given, 3 presented as test scenarios/practice rounds, i.e., the subjects are asked questions about the amounts the subjects would take home. The 11 examples/tests – 5 above, 6 below – cover the full set of possible choices for Player 1.]

1. Here is the first example. Imagine that Player 1 offers \$9 to Player 2. Now, before hearing about this, Player 2 has stated that he would reject an offer of \$9 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 might have made, but we will not worry about that now.) Because Player 2 said he would reject \$9, Player 1 goes home with nothing and Player 2 goes home with nothing.
2. Here is another example. Imagine that Player 1 offers \$9 to Player 2. Now, before hearing about this, Player 2 has stated that he would accept an offer of \$9 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 might have made, but we will not worry about that now.) In this case, Player 1 goes home with \$1 (\$10 minus \$9 equals \$1) and Player 2 goes home \$9.
3. Here is another example. Imagine that Player 1 offers \$2 to Player 2. Now, before hearing about this, Player 2 has stated that he would accept an offer of \$2 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 might have made, but we will not worry about that now.) Because Player 2 said he would accept this offer, Player 1 goes home with \$8 (\$10 minus \$2 equals \$8), and Player 2 goes home with \$2.
4. Here is another example. Imagine that Player 1 offers \$2 to Player 2. But now, before hearing about this, Player 2 has stated that he would reject an offer of \$2 from Player 1. (Player 2 also stated whether he would accept or reject each of the other possible offers that Player 1 could have made, but we will not worry about that now.) In this case, Player 1 goes home with nothing, and Player 2 also goes home with nothing.
5. Here is another example. Imagine that Player 1 offers \$5 to Player 2. Now, before hearing about this, Player 2 has stated that he would reject an offer of \$5 from Player 1. (Player 2

has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now.) Because Player 2 said he would reject an offer of \$5 from Player, Player 1 goes home with nothing and Player 2 goes home with nothing.

6. Here is another example. Imagine that Player 1 offers \$5 to Player 2. Now, before hearing about this, Player 2 has stated that he would accept an offer of \$5 from Player 1. (Player 2 has also stated whether they would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now.) In this case, Player 1 goes home with \$5 (\$10 minus \$5 is \$5) and Player 2 goes home with \$5.
7. Here is another example. Imagine that Player 1 offers \$7 to Player 2. Now, before hearing about this, Player 2 has stated that he would accept an offer of \$7 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now.) Because Player 2 said he would accept an offer of \$7, Player 1 goes home with \$3 (\$10 minus \$7 equals \$3). And Player 2 goes home with \$7.
8. Here is another example. Imagine that Player 1 offers \$7 to Player 2. But now, before hearing about this, Player 2 has stated that he would reject an offer of \$7 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 might have made, but we will not worry about that now.) In this case, Player 1 goes home with nothing, and Player 2 goes home with nothing.
9. Here is another example. Imagine that Player 1 offers \$0 to Player 2. Now, before hearing about this, Player 2 has stated that he would accept an offer of \$0 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now.) Because Player 2 said he would accept \$0 from Player 1, Player 1 goes home with \$10 (\$10 minus zero is \$10) and Player 2 goes home with nothing.
10. Here is another example. Imagine that Player 1 offers \$0 to Player 2. But this time, before hearing about this offer, Player 2 has stated that he would reject an offer of \$0 from Player 1. (Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now.) In this case, Player 1 goes home with nothing and Player 2 goes home with nothing.

[The experimenter and assistants hand out two envelopes for each subject. Each envelope features the subject's ID. The two envelopes are of different color. Moreover, Player 1's [2's] envelope has a 1 [2] written on it.]

We will now practice the task together.

To practice the round of the task in which you have the role of Player 1, you have been handed two envelopes. The yellow [or other color] one with 10 paper slips in it is the one that determines what Player 1's proposes to keep for him or herself. The other envelope, the blue [or other color] one, is empty and the paper slips you put in it will determine the offer you make to Player 2. As we work through the following examples, please put the paper slips into the empty envelope as indicated by the examples. We will walk around the room to check if your allocation matches the one from the example. This is important, because it allows us to make sure that everyone understands the task and how to make the decision.

Here are some more examples [The experiment assistants go around the room to check that subjects correctly place the paper slips into the envelopes. The experimenter explains the task again if mistakes are discovered]:

1. Imagine that Player 1 offers \$10 to Player 2. Now, before hearing about this, Player 2 has stated that he would reject an offer of \$10 from Player 1. Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now. Then Player 1 goes home with nothing and Player 2 goes home with nothing.
2. Imagine now that Player 1 offers \$10 to Player 2. But this time, before hearing about this, Player 2 has stated that he would accept an offer of \$10 from Player 1. Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now. Then Player 1 goes home with nothing (\$10 minus \$10 equals zero (nothing)) and Player 2 goes home with \$10.
3. Imagine that Player 1 offers \$4 to Player 2. Now, before hearing about this, Player 2 has stated that he would accept an offer of \$4 from Player 1. Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now. Then, Player 1 goes home with \$6 (\$10 minus \$4 equals \$6). And Player 2 goes home with \$4.
4. Imagine again that Player 1 offers \$4 to Player 2. Now, before hearing about this, Player 2 has stated that he would reject an offer of \$4 from Player 1. Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now. Then, Player 1 goes home with nothing. And, Player 2 goes home with nothing.
5. Imagine that Player 1 offers \$6 to Player 2. Now, before hearing about this, Player 2 has stated that he would reject an offer of \$6 from Player 1. Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now. Then Player 1 goes home with nothing and Player 2 goes home with nothing.
6. Imagine that Player 1 offers \$6 to Player 2. Now, before hearing about this, Player 2 has stated that he would accept an offer of \$6 from Player 1. Player 2 has also stated whether he would accept or reject all the other possible offers that Player 1 could have made, but we will not worry about that now. Then Player 1 goes home with \$4 (\$10 minus \$6 equals \$4). And Player 2 goes home with \$6.

Test question formats:

7. Suppose that Player 1 offers \$1 to Player 2 and that, before hearing about this, Player 2 has stated that he would accept an offer of \$1. In this case, how much will Player 1 go home with? [\$9] And how much will Player 2 go home with? [\$1].
8. And what if, before hearing about this, Player 2 has stated that he would reject an offer of \$1. In this case, how much will Player 1 go home with? [nothing] And how much will Player 2 go home with? [nothing]
9. Now try this one. Suppose that Player 1 offers \$8 to Player 2 and that, before hearing about this, Player 2 has stated that he would accept an offer of \$8. In this case, how much will Player 1 go home with? [\$2] And how much will Player 2 go home with? [\$8].

10. And what if, before hearing about this, Player 2 has stated that he would reject an offer of \$8. In this case, how much will Player 1 go home with? [nothing] And how much will Player 2 go home with? [nothing]
11. Now try this one. Suppose that Player 1 offers \$3 to Player 2 and that, before hearing about this, Player 2 has stated that he would reject an offer of \$3. In this case, how much will Player 1 go home with? [\$0] And how much will Player 2 go home with? [\$0]
12. And what if, before hearing about this, Player 2 has stated that he would accept an offer of \$3. In this case, how much will Player 1 go home with? [\$7] And how much will Player 2 go home with? [\$3]

To practice the round of the task in which you have the role of Player 2, you have been handed a decision sheet. The decision sheet shows you the 11 possible allocations that Player 1 can offer to Player 2. For each possible allocation, Player 2 has to decide whether he would accept that offer or not. If an offer is accepted, Player 1 and Player 2 are paid according to the corresponding allocation. If an offer is not accepted, then both players are paid 0 for this task. Player 2 decides whether to accept or reject an offer by ticking the yes or no box next to the offer.

Now please practice the round of the task in which you have the role of Player 2 by filling out the decision sheet, accepting or rejecting each possible offer made by Player 1. We will walk around the room to check if you have any problems filling out the decision sheet. This is important, because it allows us to make sure that everyone understands the task and how to make the decision.

- [Before each session, the order of rounds is randomly determined] You will all perform one round as player 1 and one round as player 2. You will first perform the task as Player 1 [or 2, depending on randomization], and then perform the task as Player 2 [or 1].
- We don't know yet whether you will be paid for this task, nor whether you will be paid for your decisions as Player 1 or as Player 2. How will we choose whether to pay you for this task, and whether to pay you as Player 1 or Player 2? After we have finished performing all the tasks, we will first draw a number from the hat [show again numbers and hat] to determine which task will be paid. If we draw the number 1 from the hat, then it means that this task is the one selected to be paid. If so, we will toss a coin: if heads come up then you will be paid as Player 1; if tails come up, we will pay you as Player 2.

[For Player 1s] You will now perform the task as Player 1. You have been handed two envelopes. The yellow [or other color] one with 10 paper slips in it is the one that determines what you propose to keep for yourself. The other envelope, the blue [or other color] one, is empty and the paper slips you put in it will determine the offer you make to Player 2. Please put the paper slips you want to give to player to the empty envelope. Please make sure your choice is not observed by others in the room. You must now wait while the rest of the players finish performing the task. [If Player 1 is selected to be the first role to be played] Then we will play the second round of this task, where you are Player 2.

[The experimenter and assistants collect the envelopes.]

[For Player 2s] You are a Player 2. Player 1 has allocated a sum of money to you. This money is in an envelope filled by someone in the other room. Before you know Player 1's offer to you, tell me for each possible offer Player 1 could make whether you would accept or reject it [Hand subjects a sheet with different possible offer and have them select the ones they will accept

and those they will reject. Each decision sheet is marked with the subject ID]. These decisions will determine what you actually receive once we see what Player 1 has offered you. Please note that you will not get a chance to change your mind after the envelope has been handed over. [Occasionally, when it seemed necessary, the players were given the following reminder...] Remember that Player 1's offer is already in an envelope. Nothing you decide now can change what is in it.

Now please make your decisions by filling out the decision sheet, accepting or rejecting each possible offer made by Player 1. Then fold the decision sheet in half, so that nobody can see your choices, and we will come to collect them.

[The experimenter and assistants collect the decision sheets, which depict graphically the following allocations and questions:

1. If Player 1 offered you \$10 and kept \$0 for him or herself would you accept or reject?
2. If Player 1 offered you \$9 and kept \$1 for him or herself would you accept or reject?
3. If Player 1 offered you \$8 and kept \$2 for him or herself would you accept or reject?
4. If Player 1 offered you \$7 and kept \$3 for him or herself would you accept or reject?
5. If Player 1 offered you \$6 and kept \$4 for him or herself would you accept or reject?
6. If Player 1 offered you \$5 and kept \$5 for him or herself would you accept or reject?
7. If Player 1 offered you \$4 and kept \$6 for him or herself would you accept or reject?
8. If Player 1 offered you \$3 and kept \$7 for him or herself would you accept or reject?
9. If Player 1 offered you \$2 and kept \$8 for him or herself would you accept or reject?
10. If Player 1 offered you \$1 and kept \$9 for him or herself would you accept or reject?
11. If Player 1 offered you \$0 and kept \$10 for him or herself would you accept or reject?]

We will now perform another tasks/We will now take a break. [Researcher's name] will pay you for this task [point to the pile of envelopes to demonstrate the amount] after we finish all the tasks, if this task is the one selected to be paid.

10.9 Instructions for Norm Elicitation game (Task 5)

For this task, I will read to you descriptions of a series of situations. These descriptions correspond to situations in which one person, a woman, must make a decision. For each situation, you will be given a description of the decision faced by the woman. After I read to you the description of the decision, I will describe a choice that the woman might have made, and you should decide whether making that choice would be "socially appropriate" or "socially inappropriate" . or By socially appropriate, we mean behavior that is consistent with moral or proper behavior, that is, behavior that most people agree is the "correct" or "moral" thing to do. Another way to think about what we mean is that, if someone were to make a socially inappropriate choice, then someone observing the person's behavior might think poorly of that person or even get angry at that person.

In each of your responses, we would like you to answer as truthfully as possible, based on your opinions of what constitutes socially appropriate or socially inappropriate behavior.

To give you an idea of how the experiment will proceed, we will go through an example and show you how you will indicate your responses. I will now read to you an example of a situation. These cards that I am holding illustrate the situation and the decision sheet. [Experimenter illustrates the situation using a vignette, to make it easier for subjects to understand the situation].

Someone is at a local grocery store. While there, the person notices that someone has left a wallet/bag on the counter. How appropriate would it be to take the wallet for yourself?

If this were the situation we asked you about in the study, you would indicate the extent to which you believe taking the wallet would be "socially appropriate" or "socially inappropriate". Recall that by socially appropriate we mean behavior that most people agree is the "correct" or "moral" thing to do.

You should indicate your choice by filling the decision sheet [Hold up a reproduction of the decision sheet, where the answers are pictured using smiley faces/thumbs up or down]. As you can see, the decision sheet has four symbols on it:

- 2 thumbs down, corresponding to "very socially inappropriate"
- 1 thumb down, corresponding to "somewhat socially inappropriate"
- 1 thumb up, corresponding to "somewhat socially appropriate"
- and 2 thumbs up, corresponding to "very socially appropriate".

This is to help you recognize and remember what each of these options mean.

For example, suppose you thought that taking the wallet was very socially inappropriate. Then, you would indicate your response by selecting the last symbol, the one with the two thumbs down on the decision sheet.

Are there any questions about this example situation or about how to indicate your responses? I will now read to you several situations, all dealing with decisions that a woman might have to make. I will illustrate these situations using vignettes. For each of the choices, I would like you to think whether making that choice is very socially inappropriate, somewhat socially inappropriate, somewhat socially appropriate, or very socially appropriate for a woman to make. To indicate your response, you would place a check mark on the corresponding symbol on the decision sheet [Hold up reproduction of decision sheet again].

How will you get paid for this task? If this task is the one selected to be paid, we will pay you Rs 250 for each of your answers that matches the answer of someone in the other room, in addition to your participation fee. For instance, suppose the example situation above is part of this task, and this task is selected to be paid.

- Suppose your response was "somewhat socially appropriate,". Then you will receive Rs 250 for this question if the answer given by the person in the other room is also "somewhat socially appropriate".
- Suppose your response was "socially inappropriate". Then you will receive Rs 250 for this question if the answer given by the person in the other room is also "socially inappropriate".

Otherwise you would receive only the Rs 1000 participation fee.

Who is the person in the other room, whose answers is compared to your to determine your earnings from this task? It is a different person for each different question. We will explain exactly who this person is when we present each situation.

Do you have any questions? If you have any questions, please raise your hand and wait for the experimenter to come to you.

10.9.1 Question 1

We will now describe the first situation.

Imagine that a woman can buy a scarf for herself using money she has been given by her parents as a gift. She wants to buy a scarf. Her husband offers to go and buy the scarf for her. She can let the husband go shopping for her, or she can go herself. She decides to go shopping by herself.

How appropriate do you think it is for the woman to buy the scarf by herself? Do you think her decision is very socially appropriate, somewhat socially appropriate, somewhat socially inappropriate or very socially inappropriate? Tick the corresponding box in the answer sheet in front of you.

You will receive Rs 250 for this question only if your answer matches that of a randomly selected person in the other room, different from your spouse.

10.9.2 Question 2

I will now tell you about another situation, also dealing with a decision that a woman might have to make. Again, I would like you to think whether making that choice is very socially inappropriate, somewhat socially inappropriate, somewhat socially appropriate, or very socially appropriate. To indicate your response, you would place a check mark on the corresponding symbol on the decision sheet.

Imagine that a woman is running a business from her home. At the end of the month, she has some profits to re-invest. She can ask her husband to re-invest them for her, or she can choose herself, without consulting him. She decides to re-invest her profits in what she thinks best, without consulting her husband.

How appropriate do you think it is for the woman to make the investment decision on her own? Do you think her decision is very socially appropriate, somewhat socially appropriate, somewhat socially inappropriate or very socially inappropriate? Tick the corresponding box in the answer sheet in front of you.

You will receive Rs 250 for this question only if your answer matches that of a randomly selected person in the other room, different from your spouse.

10.9.3 Question 3

We will now describe another situation. This situation is the same as the first one, only this time your payment for this question is determined in a different way, so pay attention.

Imagine that a woman can buy a piece of clothing for herself, using money she has been given by her parents as a gift. She wants to buy a scarf. Her husband offers to go and buy the scarf for her. She can let the husband go shopping for her, or she can go herself. She decides to go shopping by herself.

How appropriate do you think it is for the woman to buy the scarf by herself? Do you think her decision is very socially appropriate, somewhat socially appropriate, somewhat socially inappropriate or very socially inappropriate? Tick the corresponding box in the answer sheet in front of you.

You will receive Rs 250 for this question only if your answer matches that of your spouse in the other room. So note the difference with respect to the first question: there, you would get paid if your answer matched that of a randomly selected person in the other room, different from your spouse. Now, you will get paid for this question if your answer matched that of your spouse in the other room.

10.9.4 Question 4

We will now describe another situation. This situation is the same as the second one, only this time your payment for this question is determined in a different way, so pay attention.

Imagine that a woman is running a business from her home. At the end of the month, she has some profits to re-invest. She can ask her husband to re-invest them for her, or she can choose herself, without consulting him. She decides to re-invest her profits in what she thinks best, without consulting her husband.

How appropriate do you think it is for the woman to make the investment decision on her own? Do you think her decision is very socially appropriate, somewhat socially appropriate, somewhat socially inappropriate or very socially inappropriate? Tick the corresponding box in the answer sheet in front of you.

You will receive Rs 250 for this question only if your answer matches that of your spouse in the other room. So note the difference with respect to the first question: there, you would get paid if your answer matched that of a randomly selected person in the other room, different from your spouse. Now, you will get paid for this question if your answer matched that of your spouse in the other room.

10.10 Final Instructions

We have now completed all the tasks. We will now draw one number from this bag to determine which task will be paid [ask one participant to draw a number in front of all other subjects. If task 2, 3 or 4 is drawn, then toss a coin to determine whether they will be paid as Player 1 or 2].

We will now call you one by one to give you your payment. Then you are free to leave.

Thank you all very much for participating in today's activities! Please don't hesitate to ask us questions if you have doubts before you leave.